KUPPUL, V. K., BARINOV, V. P., BUSHINSKAYA, A. V., AND GUL'DIN, I. G.

"Electrolytic Production of Lead by Electrolytes of Fused Salts"

Gintsvetmet

report submitted at a conference on new methods of lead production from concentrates, Gintsvetmet (State Inst. Non-Ferrous Metallurgy), Moscow 22-25 June 1958.

(for entire conf. see card for LIDOV, V. P.)

ACC NR: AP7008868 SOURCE CODE: UR/0105/66/000/008/0095/0095

AUTHOR: Abelishvili, L. G.; Al'tgauzen, A. P.; Baycher, M. Yu.; Gabashvili, N. V.; Dididze, M. S.; Yefroymovich, Yu. Ye.; Kotiya, A. K.; Kupradze, G. D.; Kurdiani, I. S.; Natushil, A. V.; Nikol'skiy, L. Ye.; Razmadze, Sh. M.; Svenchanskiy, A. D.; Smelyanskiy, M. Ya.; Tkeshelashvili, G. K.

ORG: none

TITLE: Professor Grigoriy Artemyevich Sisoyan (on his 70th birthday)

SOURCE: Elektrichestvo, no. 8, 1966, 95

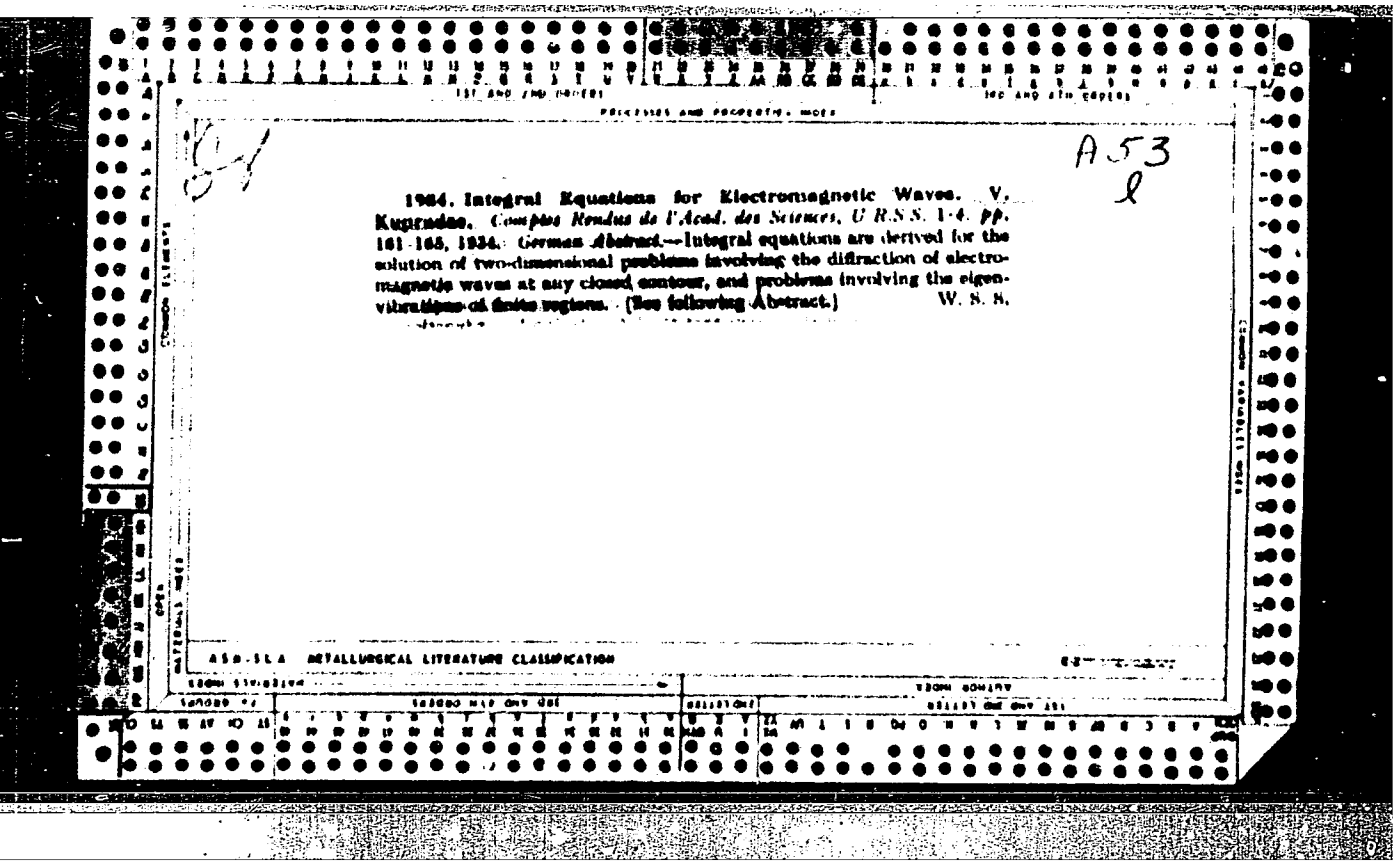
TOPIC TAGS: electric engineering personnel, electric furnace, academic personnel

SUB CODE: 09

ABSTRACT: G. A. Sisoyan graduated from the Moscow Power Engineering Institute in 1931. In 1932 he went to work at the Georgian Polytechnical Institute in the theoretical and general electrical engineering department. Sisoyan has worked and published many works in the area of electric furnaces. He has also worked in the area of investigation of electric spark action. He has published over 50 scientific works. He has also been active in university level teaching. Orig. art. has: 1 figure. [JPRS: 38,330]

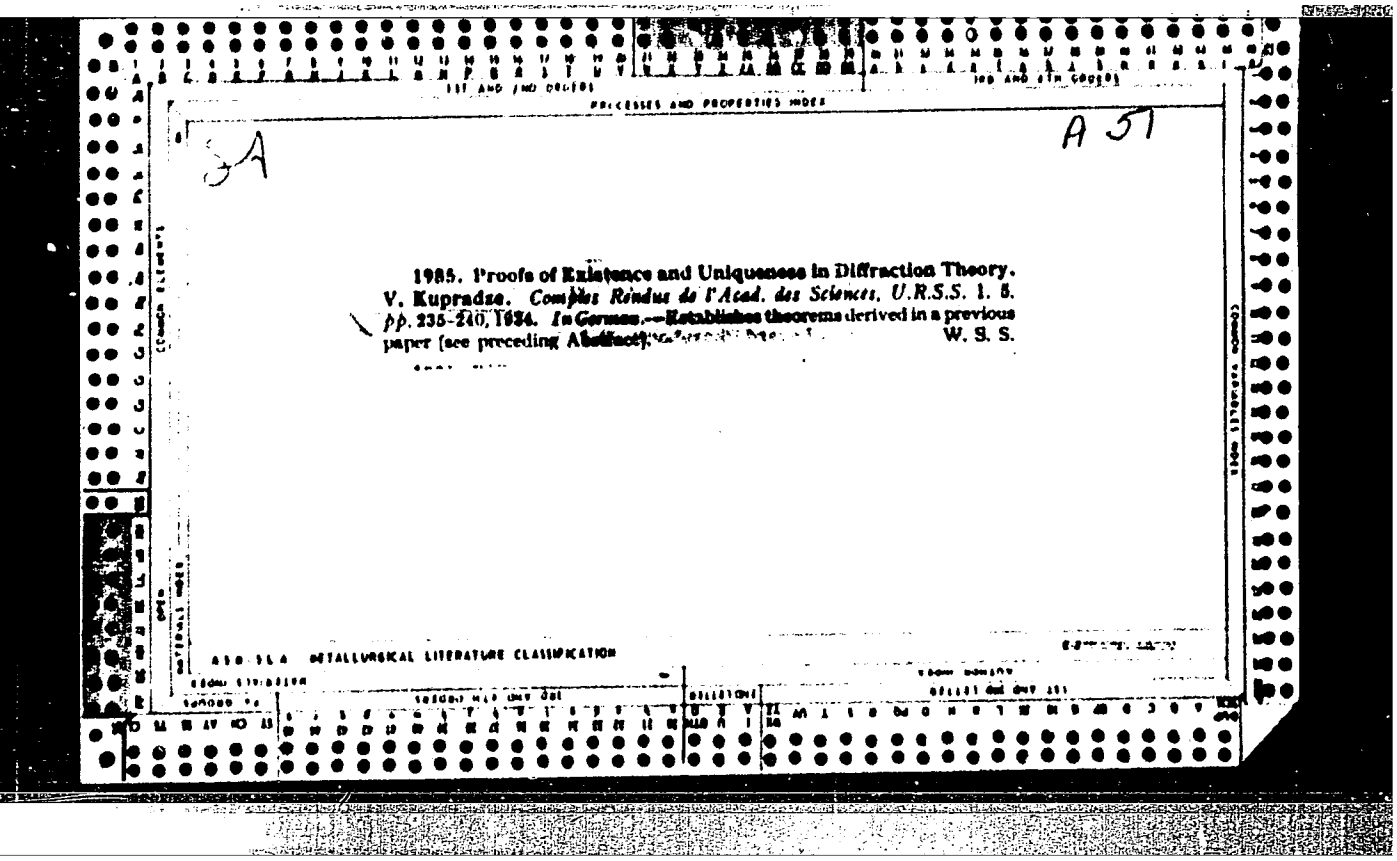
UDC: 621.36

Card 1/1



A53
l

1984. Integral Equations for Electromagnetic Waves. V. Kupradze. *Comptes Rendus de l'Acad. des Sciences, U.R.S.S.* 1-4. pp. 161-165, 1934. German Abstract.—Integral equations are derived for the solution of two-dimensional problems involving the diffraction of electromagnetic waves at any closed contour, and problems involving the eigenvibrations of finite regions. (See following Abstract.) W. S. S.



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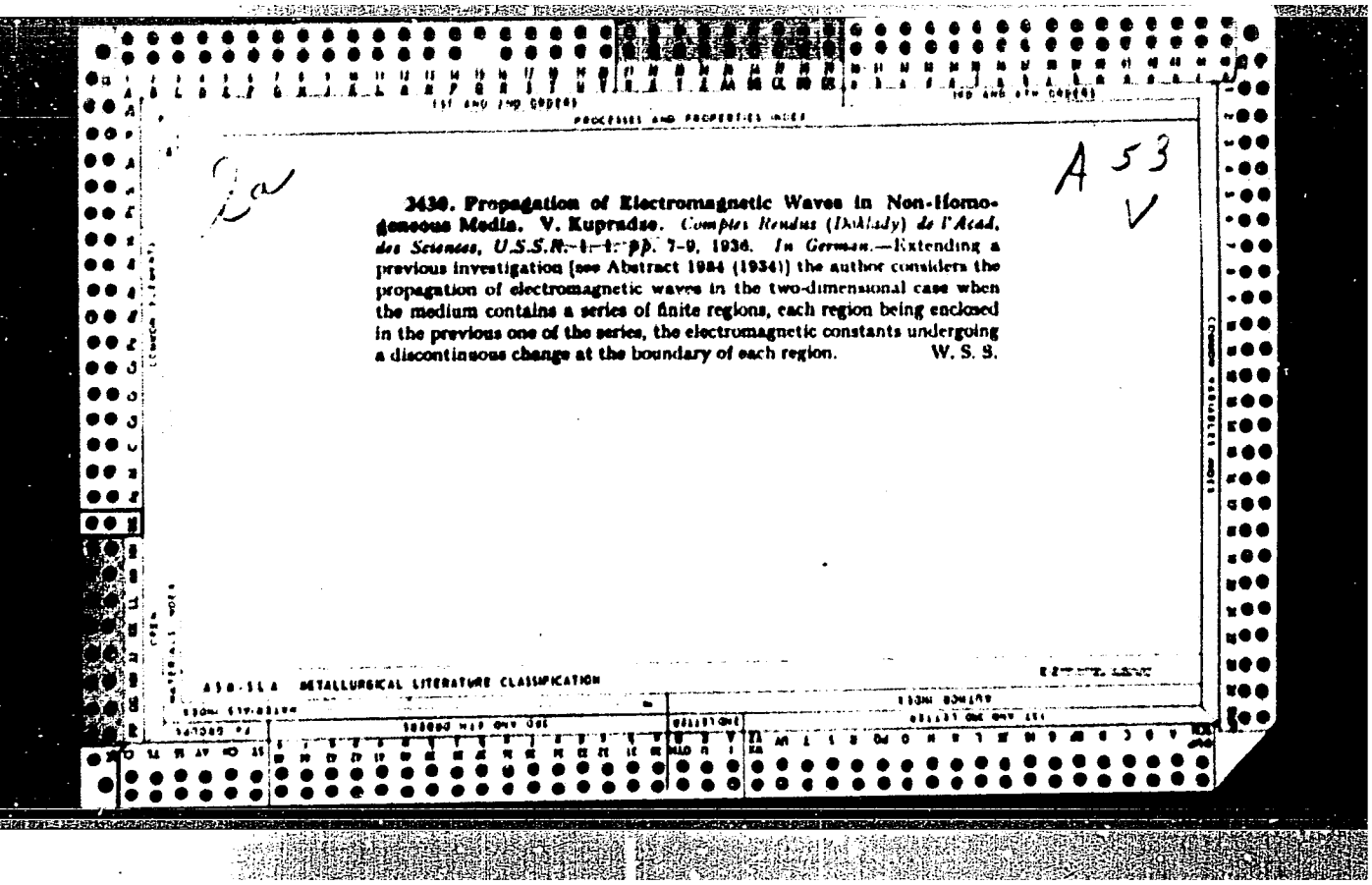
A 51

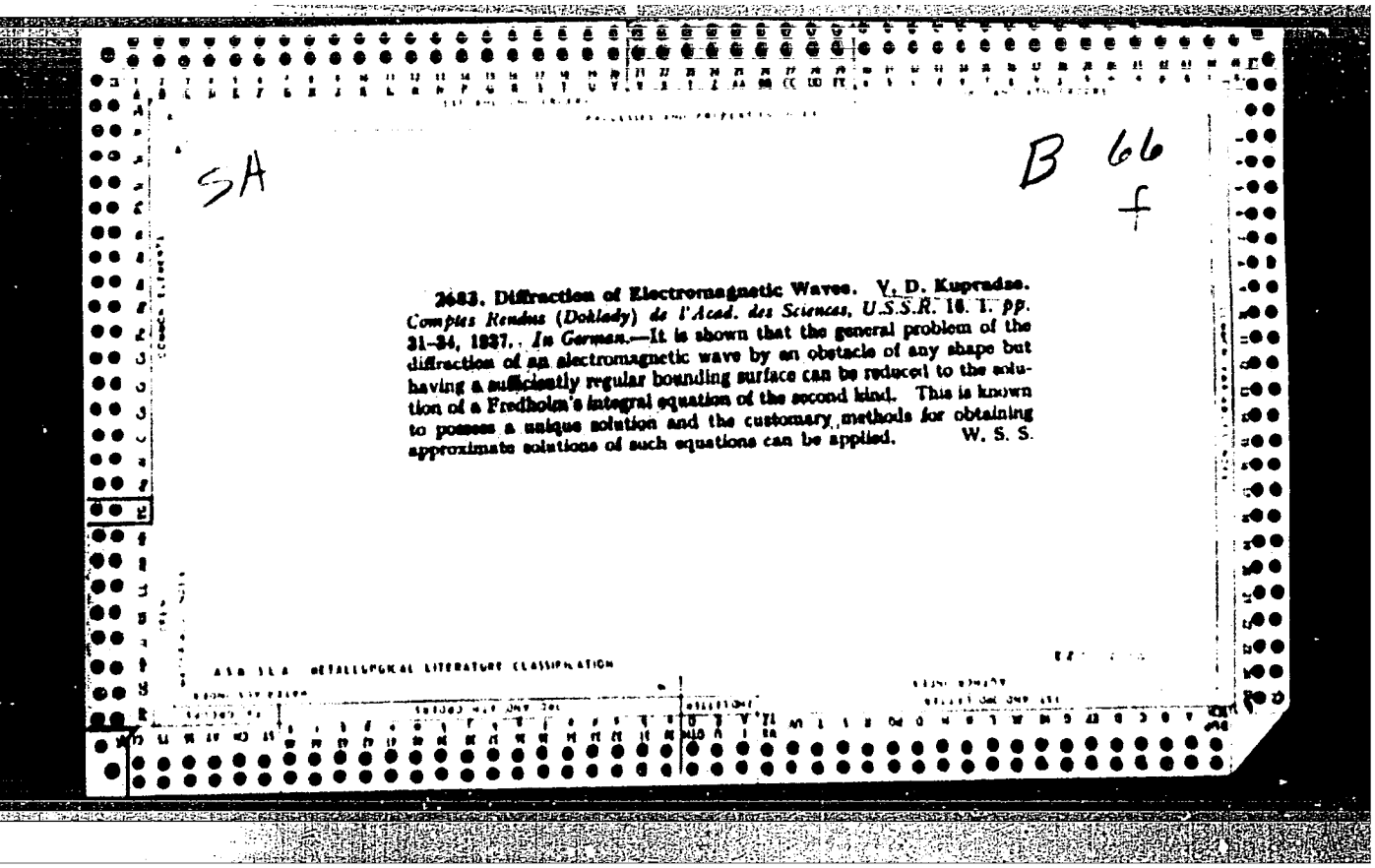
1985. Proofs of Existence and Uniqueness in Diffraction Theory. V. Kupradze. *Comptes Rendus de l'Acad. des Sciences, U.R.S.S.* 1. 5. pp. 235-240, 1934. *In German.*—Establishes theorems derived in a previous paper (see preceding Abstract). W. S. S.

KUPRADZE, V. D.

KT-1269 [Fundamental Problems in the Mathematical Theory of Diffraction. Chapters I and II] Moscow-Leningrad, 1935.
(Original Russian source unavailable for review)



3430. Propagation of Electromagnetic Waves in Non-Homogeneous Media. V. Kupradze. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.*, [illegible] pp. 7–9, 1936. *In German.*—Extending a previous investigation (see Abstract 1984 (1934)) the author considers the propagation of electromagnetic waves in the two-dimensional case when the medium contains a series of finite regions, each region being enclosed in the previous one of the series, the electromagnetic constants undergoing a discontinuous change at the boundary of each region. W. S. S.

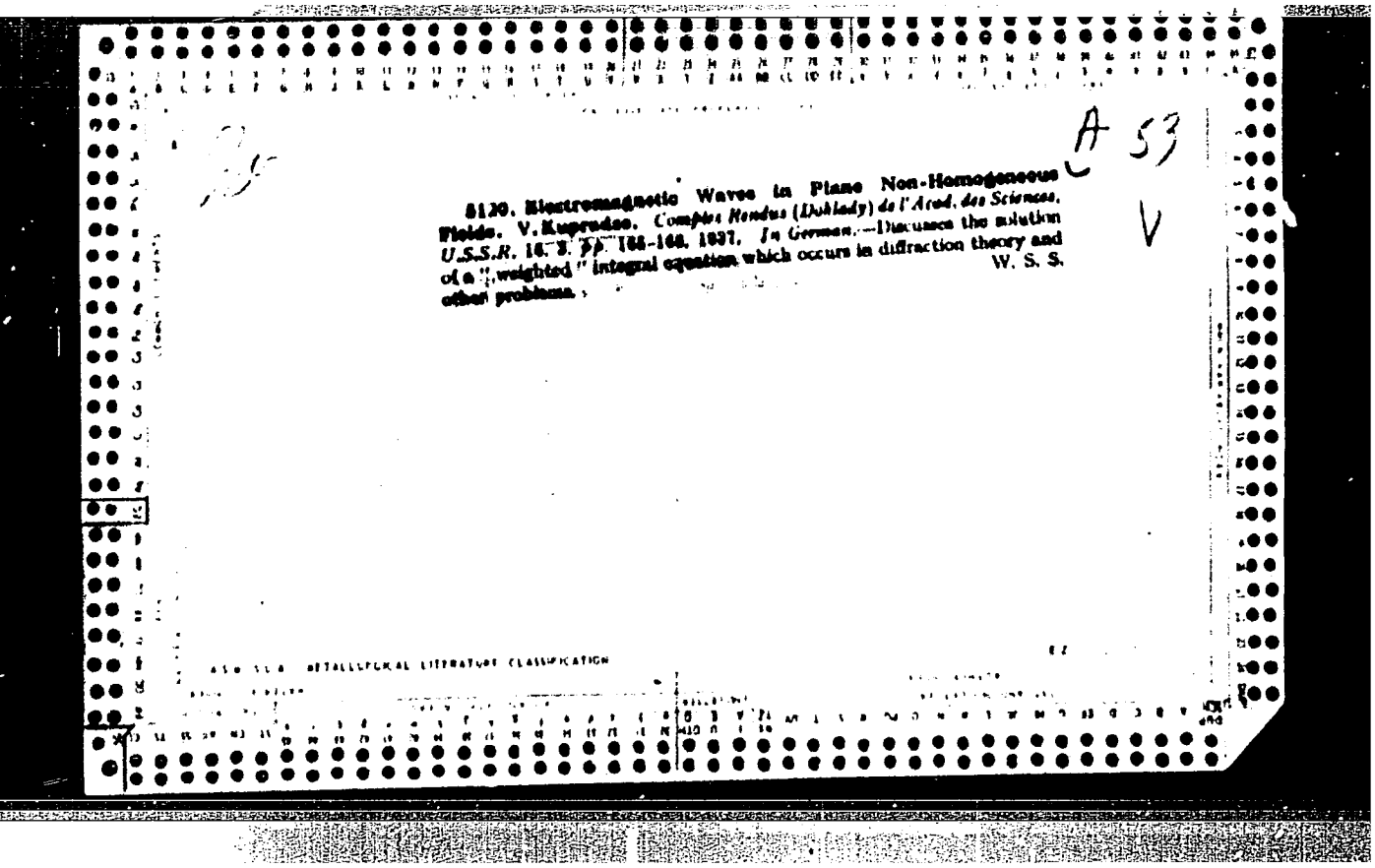


SA

B 66
f

2683. **Diffraction of Electromagnetic Waves.** V. D. Kupradse. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.* 16. 1. pp. 31–34, 1937. *In German.*—It is shown that the general problem of the diffraction of an electromagnetic wave by an obstacle of any shape but having a sufficiently regular bounding surface can be reduced to the solution of a Fredholm's integral equation of the second kind. This is known to possess a unique solution and the customary methods for obtaining approximate solutions of such equations can be applied. W. S. S.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



A 53
V

8120. Electromagnetic Waves in Plane Non-Homogeneous Fields. V. Kupradse. *Comptes Rendus (Doklady) de l'Acad. des Sciences, U.S.S.R.* 16, 3, pp. 135-140, 1937. *In German.*—Discusses the solution of a "weighted" integral equation which occurs in diffraction theory and other problems. W. S. S.

KUPRADZE, V. D.

"Some New Applications of the Theory of Solutions to Limited Problems of the Theory of the Potential," Dok. Ak. Nauk, Vol. 23, No. 1, 1939. (Mbr., Inst. of Math., Tbilisi, Georgian Acad. Sci., c.1939.

$$u(p) - \int u(q)K(p,q)dS_q = F(p)$$

for Dirichlet's exterior problem,

KUPRADZE, V. D.

Kupradze, V. D. **Solution of a fundamental boundary problem in the displacements for vibrations of an elastic medium.** Soobščeniya Akad. Nauk Gruzin. SSR. 9, 99–106 (1948). (Russian)

The boundary value problem consists in the determination of the displacement vector $\vec{u}(u_1, u_2, u_3)$ which takes prescribed boundary values $\vec{f}(f_1, f_2, f_3)$ on the boundary S of an open set B in (x_1, x_2, x_3)-space, satisfies the system of equations

$$(*) \qquad \Delta\vec{u}+\frac{\lambda+\mu}{\mu}\operatorname{grad}\operatorname{div} u+k^2\vec{u}=0,$$

in B, and the radiation condition at infinity if B is unbounded. The uniqueness theorem in the plane case has been discussed earlier [Kupradze, C. R. (Doklady) Acad. Sci. URSS (N.S.) 6 (1935 II), 100–104; and in the space case in a Tiflis dissertation by A. S. Bakalyaev]. In the present paper the author is concerned with the existence of a solution. A "fundamental vibration tensor solution" of (*) is introduced, and "double layer potentials" with respect to this tensor are then constructed. Using the jump conditions on the boundary for such double layer potentials, the solution of the (Dirichlet-type) boundary-value problem is sought in the form of a double layer potential, and an equivalent Fredholm integral equation for the unknown density of the double-layer potential is obtained. For the exterior boundary-value problem the solution exists for any values of the vibration parameter. *J. B. Diaz.*

KUPRADZE, V. D.

19776 Kupradze, V. D. Prostranstvennaya dinamicheskaya zadacha teorii uprugosti s zadannymi napryazheniyami na granitse. Soobshch. Akad. nauk Gruz. SSR, 1949, No. 1, S 3-8

SO: LETOPIS' ZHURNAL'NYKH STATEY, Vol. 27, Moskva 1949

KUPRADZE, V. D.

Kupradze, V. D. The spatial dynamical problem of the theory of elasticity with given displacements on the boundary. Soobščeniya Akad. Nauk Gruzin. SSR. 10, 3–8 (1949). (Russian)

The present paper is an extension of a previous one [same Soobščeniya 9, 99–106 (1948); these Rev. 14, 336], and contains an essential simplification of the integral equations obtained previously for the boundary-value problem under consideration. This is based upon the integral equation

$$T(P, Q) = T(P, Q; 0) + \frac{\omega^2}{4\pi}\int_B T(P, Q')T(Q', Q; 0)d\tau_{Q'},$$

for the fundamental tensor $T(P, Q) \equiv T(P, Q; \omega)$, where ω is the frequency of vibration, which was introduced in the paper mentioned above. It is shown that the exterior problem with given displacements on the boundary and radiation condition at infinity always has a unique solution for any ω; there are no eigen-frequencies. *J. B. Dias.*

KUPRADZE, V. D.

Mathematical Reviews
Vol. 14 No. 10
Nov. 1953
Mechanics

Kupradze, V. D. The spatial dynamical problem of the theory of elasticity with given stresses on the boundary. Soobščenija Akad. Nauk Gruzin. SSR. 10, 257-262 (1949). (Russian)

This paper is a continuation of the paper reviewed above and the one cited in that review. Let S be a simple closed smooth surface in 3 dimensions and B be its interior or exterior. The boundary-value problem under consideration consists in the determination of the displacement vector $a=(a_1, a_2, a_3)$, continuous in $B+S$, with continuous second derivatives in B, satisfying the differential system

$$\Delta a+\frac{\lambda+\mu}{\mu_1}\operatorname{grad}\operatorname{div} a+k_1^2 a=0, \quad k_1^2=\frac{\rho}{\mu}\omega^2, \quad \text{in } B,$$

and the boundary conditions

$$L_i a=\sum_{j=1}^{3}\tau_{ij}\cos(n, x_j)=f_i, \quad i=1, 2, 3,$$

where τ_{ij} are the components of the stress tensor and the f_i are given functions on S. The radiation condition at infinity is required when B is infinite. The author introduces the concept of an "antenna layer" potential and seeks a solution of the problem in the form of such a potential. He is led to the formulation of an equivalent system of Fredholm integral equations of the second kind, and to the result that if k_1 is not an eigen-vibration for the homogeneous interior boundary-value problem for the displacements, then the present problem has one and only one solution for arbitrary f_i.

J. B. Diaz (College Park, Md.).

Mathematical Reviews
Vol. 14 No. 10
Nov. 1953
Mechanics

Šatašvili, S. H. On steady elastic vibrations with given displacements on the surface of the medium. Soobščeniya Akad. Nauk Gruzin. SSR. 10, 263–266 (1949). (Russian)

The problem of steady elastic vibrations of a plane elastic medium, given the displacements on the boundary, was considered by D. I. Šerman [Akad. Nauk SSSR. Prikl. Mat. Meh. 10, 617–622 (1946); these Rev. 8, 361] and I. N. Vekua [Doklady Akad. Nauk SSSR (N.S.) 60, 779–782 (1948); these Rev. 10,.87]. V. D. Kupradze [Soobščeniya Akad. Nauk Gruzin. SSR. 9, 99–106 (1948); these Rev. 14, 336; and the paper reviewed second above] gave the solution for bounded and unbounded three-dimensional bodies. In the present paper the author gives the solution for an elastic half space with given displacements on the surface of the medium. Writing the displacement vector as

$$(u, v, w) = \text{grad } \Phi + \text{curl } \psi,$$

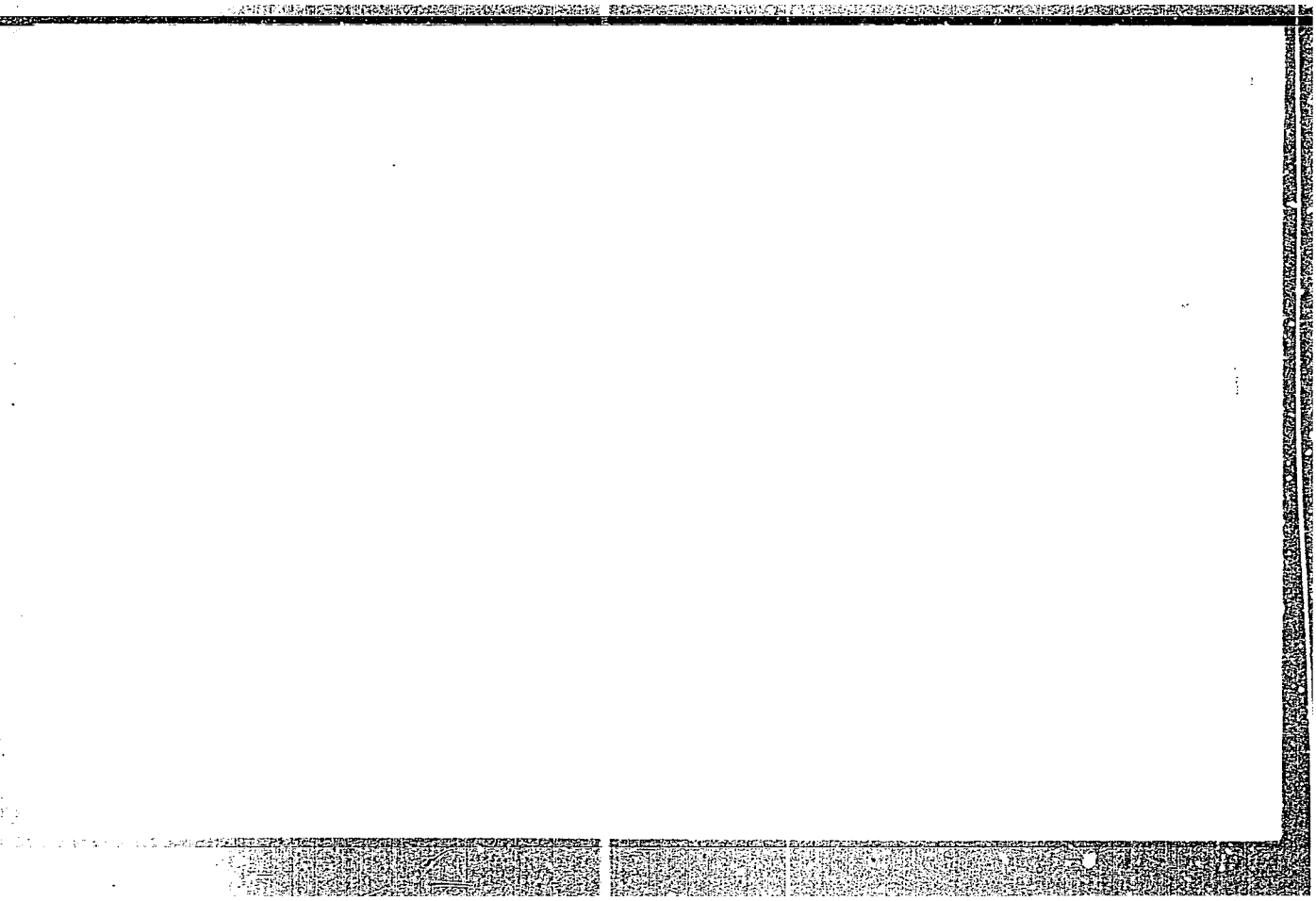
one has

$$\Delta\Phi + k_1^2\Phi = 0, \quad \Delta\psi + k_2^2\psi = 0, \quad z > 0,$$

$$\Delta = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} + \frac{\partial^2}{\partial z^2}, \quad k_1^2 = \frac{\lambda^2}{a^2}, \quad k_2^2 = \frac{\lambda^2}{b^2},$$

where a and b are the longitudinal (transversal) speeds of wave propagation, and λ is the frequency of vibration. Φ and ψ are to satisfy the boundary conditions (on $z = 0$); $(u, v, w)(x, y, 0) = (f_1, f_2, f_3)$, where the $f_i(x, y)$ are given functions. Following Šerman, the solution is sought in the form of integrals of certain particular solutions, and a system of Fredholm integral equations for the "densities" is obtained. *J. B. Diaz* (College Park, Md.)

EH 6-11-54



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PHASE II TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 492 - II

BOOK Call No.: QA935.K96

Author: KUPRADZE, V. D.

Full Title: BOUNDARY PROBLEMS OF THE THEORY OF VIBRATIONS AND INTEGRAL EQUATIONS

Transliterated Title: Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya

PUBLISHING DATA

Originating Agency: None

Publishing House: State Publishing House of Technical and Theoretical Literature

Date: 1950 No. pp.: 280 No. of copies: 4,000

Editorial Staff: None

TEXT DATA

Coverage: The book is a monograph which presents systematically the results of research made by the author alone in the theory of boundary problems of the equation of vibrations and in the applications of integral equations to this theory. It offers proofs of uniqueness theorems of Sommerfeld's simplest problem, which the author says is based on physical deliberations without rigid application of the theorem of uniqueness, as well as other much more complicated problems in the electromagnetic field theory and in the theory of elasticity.

Reviewed in Usp. Matemat. Nauk, 6, No. 5, 1951

Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya

AID 492 - II

The method of integral equations is used and new examples of its application given. The author's purpose, he states, was to solve boundary problems of the theory of elasticity for the so-called established vibrations which are of theoretical interest and have an application in the theory of foundations and engine construction. The study of vibrations or equilibrium of non-homogeneous masses and media met in boundary problems is based in the text on the method of the potential theory of masses. This method is used in the problems of propagation of electromagnetic waves, problems of electrostatics, diffraction of sound, diffraction of a linear polarized elastic transverse wave and others. The author demonstrates the method of an effective solution of certain systems of singular integral equations met in applications. Throughout the text the author refers to Green's functions, the problems and methods of Fredholm, Dirichlet, Lyapunov, Neumann, Cauchy, and others, the authors of the complete theory of the first boundary problem in a statics case, Weyl's discussion (1915) of the second boundary problem and to Kellogg's Foundations of Potential Theory (1929).

The subject matter of the book is well covered by the table of contents.

Preface: None
Introduction: See the "Coverage"
Abstract: In the first sections (pp. 14-24) the author discusses fundamental results obtained in the theory of vibrations in three dimension space by basing his presentation on the principal statements of the harmonic potential theory, as given by L. Lichtenstein in his Neuere Entwicklung der Potentialtheorie.

In the discussion of the equation of vibrations in spherical coordinates, the author introduces the functions of Legendre and Green's formula.

He shows a method of modifying Fredholm's resolvent of the equations (D_a) and (N_a) to solve the problem of Dirichlet and Neumann in exceptional cases by formulating two theorems which can be applied in the study of more general cases (pp. 54-62).

In presenting problems connected with the integration of the system of Maxwell's differential equations, the author shows that the theorem of uniqueness remains applicable in the electromagnetic field

(pp. 65-70) and the theorem of reciprocity in wireless telegraphy (pp. 70-73).

Fredholm's equation, met in the solution of the problem of Dirichlet for a harmonic potential, in several simple cases is solved in quadratures, such as electrostatic field in dielectric medium (pp. 86-95) with spherical and ellipsoidal boundary surfaces.

In Chapter IV the author discusses only strictly periodic vibrations of an elastic body, which he calls steady vibrations, introduces the vector and tensor analyses, the matrix theory and operational methods in constructing formulae analogous to those of Poisson, Lauricella, Green and Weyl. He uses the tensor $T^{o}_{p} M^{o}(PQ)$ of Bourrinesq-Weyl to prove the break of continuity in the $^{p}T-$operation of the potential of an antenna layer.

Introducing the constants of Lamé, the equality of coefficients of Poisson and using the Cauchy theorm (the generalization of which he contests), the author proves the problem of equilibrium of a non-homogeneous layer under given external forces (pp. 203-204).

Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya

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In the second method of solution of the first boundary problem of vibrations of an elastic body (pp. 204-209), the author reduces the problem to the regular equations of Fredholm. Lichtenstein was not able to establish that Todone's method (1902) on statistical equilibrium (not given in the text) could be used under certain circumstances for solving these problems. However, the author proposes certain supplements to this method which, he says, expand it to answer also the solution of the first boundary problem of the vibration of an arbitrary isotropic elastic body. In his discussion he uses Green's functions, vector analysis, and integral equations.

In Chapter V the author refers to the works of Fredholm, Hoelder, Carleman (1922), Muskhelishvili (1946) and Mikhlin (1948), the theory of functions of a complex variable (Riemann, Hilbert), singular integral equations (Poincaré, Bertrand, Tricomi), theory of functions (Noether), and the expansion of functions using Laurent's series, etc.

Evaluation: The book belongs to pure mathematics. No practical applications are given, and the examples introduced are entirely theoretical. A large number of authors and their works, methods and statements are mentioned in the text and footnotes, as may be deduced from

the above coverage and abstract. No special bibliography is attached, and it is difficult to define where the author presents his personal work. It seems that the book is based mainly on the works of Sommerfeld and Fredholm. In some cases, it seems also that the presence of additional definitions and a more detailed mathematical outlay would clarify the working out of problems, especially when the author introduces his own terminology.

Purpose: To give a monographic review of the author's thinking and conclusions.

Table of Contents

Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya AID 49[illegible] - I

Pages

Vibration potentials and integral equations of boundary problems. Basic theorems. Theorems of principal functions of equations (D_a^o) and (N_a^o). Application to the solution of boundary problems for exceptional values of the parameter. Some general remarks.

Ch. III Boundary Problems of the Theory of Electromagnetic Vibrations 65-95

Stating the problems and the theorem of uniqueness. Theorem of reciprocity of wireless telegraphy. Diffraction of electromagnetic waves. Integral equations. Study of the integral equation of the vector of electrical intensity and of the vector of magnetic intensity (in both cases Fredholm's theory and equations are applied). Fundamental boundary problem of electrostatics of non-homogeneous media. Electrostatical field in dielectric media, divided by a plane bounding surface. By a spherical boundary surface. By an ellipsoidal boundary surface.

Ch. IV Sustained (Steady) Vibrations of Elastic Bodies 96-[illegible]

Fundamental equations. Diffraction of sound and of a linear polarized elastic transverse wave. Fundamental boundary problems and theorems of uniqueness. Elementary [illegible].

Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya

Tib 492

Paper

Equations of longitudinal and transverse vibrations. Elementary tensor and its properties. Operator N and its properties. Formulae analogous to Green's formulae and their application. Finite part of certain infinite integrals. Integral equation of the fundamental tensor of vibrations, Numerical computations. Potential of a double layer. Break in continuity. Potential of a simple layer. Break in continuity. Potential of a simple layer. Break in continuity of N-operation. Continuity of N-operation of the potential of a double layer. Potential of an antenna layer. Calculation of intensities. Break in continuity of T-operation of the potential of an antenna layer. Integral equations of boundary problems and the "first connected" problem. Study of natural vibrations. Outer problems. Basic theorems. Theorems of the principal functions of the equations of Dirichlet (D_a^o) and Neumann (N_a^o). Solution of the first boundary and connected problem for special values of the parameter. Solution of the second boundary problem for interior space. Notes on the ~~second~~ boundary problems of statics of an elastic body. Effective solution of some

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Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya

AID 492 - I

Pages

partial problems. Statical equilibrium of an infinite layer with given on the boundary external forces ~~and~~ or displacements. Problem of equilibrium of a non-homogeneous layer with given external forces. Second method of solving the first boundary problem. Solutions of principal boundary problems on a plane.

Ch. V Integral Equations with Special Kernels 215-280

Introduction. Fundamental conceptions. Two auxiliary formulae. Reduction to an algebraic problem. Solution of the equation

Equation $$\alpha(z_0)u(z_0)+\beta(z_0)\int_L \frac{u(z)-u(z_0)}{z-z_0}dz = f(z_0)$$

$$a(z_0)u(z_0)+b(z_0)\int_L \frac{u(z)}{z-z_0}dz = F(z_0)$$

Equation with a closed contour. Systems of equations with special kernels. Study of the roots of the function $R(z)$ Solution of the system. Examples. Transformation of the characteristic function. Example. Systems of equations with closed contour. Examples. General theorems of integral equations with special kernels. Theorems of Noether. Equivalent equations of Fredholm. General theorems for

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Granichnyye zadachi teorii kolebaniy i integral'nyye uravneniya AID 492 - I

systems of equations with special kernels of the Cauchy type. Pages

Bibliography: Not given, but in the text and in many footnotes a large number of authors and their works are mentioned.

Facilities: None given, except as mentioned in the coverage, abstract and bibliography.

Available: Library of Congress.

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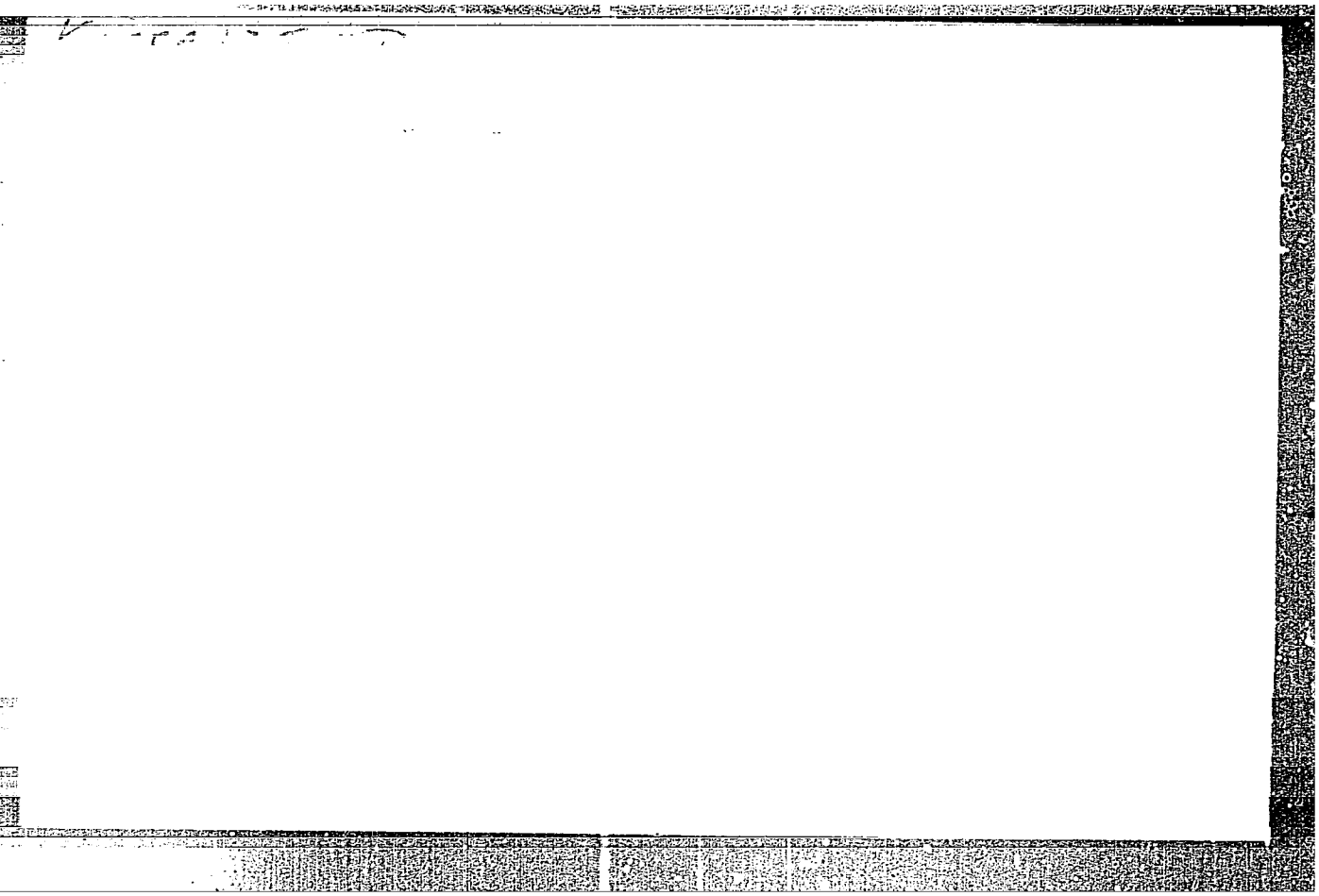

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KUPRADZE, V. D.

USSR/Mathematics - Series, Convergence of 1951

"Absolute Convergence of Binary Fourier Series," I. Ye. Zhak, Stalingrad Pedagogic Inst.

"Soob Ak Nauk Gruz SSR" Vol XII, No 3, pp 129-133

Hardy's theorem on the convergence of a sum of coeffs of Fourier-Lebesgue function f(x) is shown to be applicable to binary Fourier-Lebesgue series in a definite sense. Submitted 14 Oct 50 by V. D. Kupradze, Act Mem, Acad Sci Georgian SSR

PA 192T64

5

Ganin, M. P. Equivalent regularization of systems of singular integral equations. Soobščeniya Akad. Nauk Gruzin. SSR 12, 517-523 (1951). (Russian)

The author studies the system

$$(1)\quad K\phi \equiv A(t)\phi(t)+\frac{B(t)}{\pi i}\int_L \frac{\varphi(\tau)}{\tau-t}d\tau+\int_L K(t,\tau)\phi(\tau)d\tau=g(t),$$

where A, B, K are matrices, g, ϕ (unknown) are vectors in the class H on L; $K(t,\tau)=|t-\tau|^{-\lambda}K_0(t,\tau)$ $(0\leq\lambda<1)$, where the matrix $K_0(t,\tau)$ is in H in both variables; L is a finite sum of disjoint, simple, closed, smooth curves limiting a domain S^+. It is said that R is an equivalently regularizing operator for (1) if R transforms (1) into an equivalent system of Fredholm integral equations, each solution of one system being a solution of the other. The author solves the problem of equivalence for (1) completely, using suitable generalizations (extensions) of methods due to Kupradze [Boundary problems in the theory of vibrations . . . , Moscow-Leningrad, 1950] and Vekua [Soobščeniya Akad. Nauk Gruzin. SSR 3, 869-876 (1942); these Rev. 5, 268].

W. J. Trjitzinsky (Urbana, Ill.).

Mathematical Reviews
Vol. 14 No. 8
Sept. 1953
Analysis

DZHVARSHEYSHVILI, A.G.; KUPRADZE, V.D., deystvitel'nyy chlen.

Approximation of a function of two variables by trigonometric polynomials. Soob.AN Gruz.SSR 13 no.8:449-455 '52. (MLRA 6:5)

1. Akademiya Nauk Gruzinskoy SSR. Tbilisskiy matematicheskiy institut im. A.M. Razmadze (for Dzhvarsheyshvili). 2. Akademiya Nauk Gruzinskoy SSR (for Kupradze). (Functions) (Polynomials)

[illegible], N.E., KUPRADZE, V.D., deystvitel'nyy chlen.

Summation of double trigonometric series by Riemann's method. Soob.AN Gruz.SSR 13 no.9:513-518 '52. (MLRA 6:5)

1. Akademiya Nauk Gruzinskoy SSR (for Kupradze). 2. Akademiya Nauk Gruzinskoy SSR (for Dzhvarasheyshvili). 3. Tbilisskiy matematicheskiy institut im. A.M. Razmadze (for Dzhvarshveyshvili). (Fourier's series)

[illegible], T.S., Kupradze, V.D., deystvitel'nyy chlen.

Certain singular integral equations of particular form. Soob.AN Gruz.SSR 13 no. 10:581-586 '52. (MLRA 6:5)

1. Tbilisskiy gosudarstvennyy universitet im. Stalina (for Gegeliya).
2. Akademiya Nauk Gruzinskoy SSR (for Kupradze). (Integral equations)

Mathematical Reviews
May 1954
Analysis

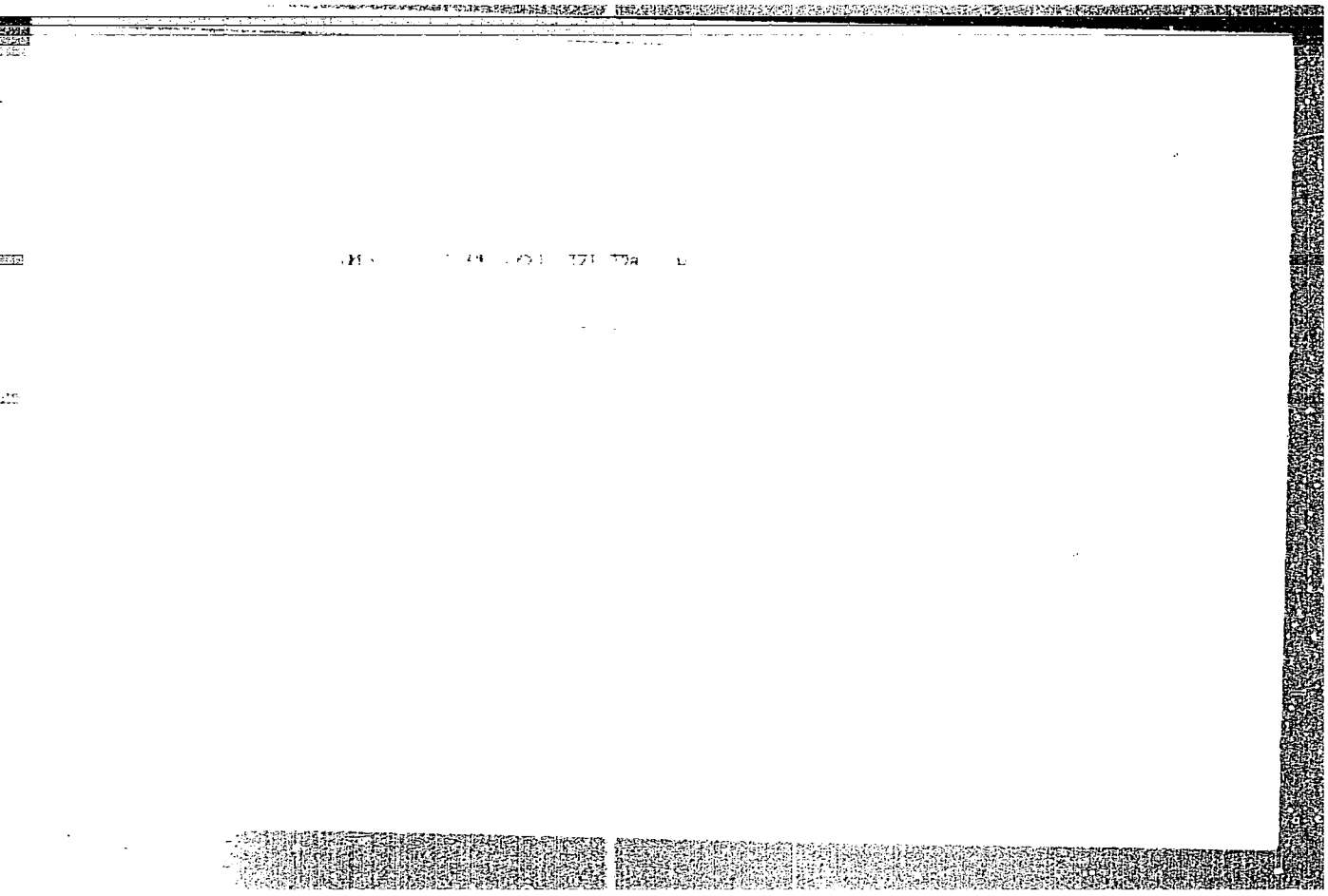
Kupradze, V. D. Boundary prob... steady elastic vibrations. Uspehi ... 8, no. 3(55), 21–74 (1953). (Russian)

The present paper is a survey of results ... fundamental boundary-value problems ... equation

$$\Delta u + \frac{\lambda+\mu}{\mu} \operatorname{grad} \operatorname{div} u + k_3^2 u = 0,$$

and is based mainly on the author's book, "Boundary problems of the theory of vibrations and integral equations" [Gostehizdat, Moscow-Leningrad, 1950; these Rev. 15, 318]. The method employed consists in generalizing the ordinary theory of the potential, and, by means of ... potentials, constructing regular integral equations which are equivalent to the given boundary-value problems. For a discussion of the method reference is made to the earlier review. I. S. Aržanyh [Akad. Nauk Uzbek. SSSR, Trudy Inst. Mat. Meh., vyp. 8 (1951), unavailable for review] has also constructed similar integral equations for the boundary-value problems of elastic equilibrium. The author points out that these last mentioned integral equations are not regular, but that they are of the singular type which may be handled by using the results of S. G. Mihlin [Uspehi Matem. Nauk (N.S.) 3, 3(25), 29–112 (1948); 8, no. 1(53), 213–217 (1953); these Rev. 10, 305; 14, 762].

J. B. Diaz (College Park, Md.).



KUPRADZE, V. D.

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Mathematical Reviews
Vol. 15 No. 3
March 1954
Mechanics

Sveĭnikov, A. G. Uniqueness of solution of exterior problems of the theory of elastic vibrations. Akad. Nauk SSSR. Prikl. Mat. Mech. 17, 443–454 (1953). (Russian)

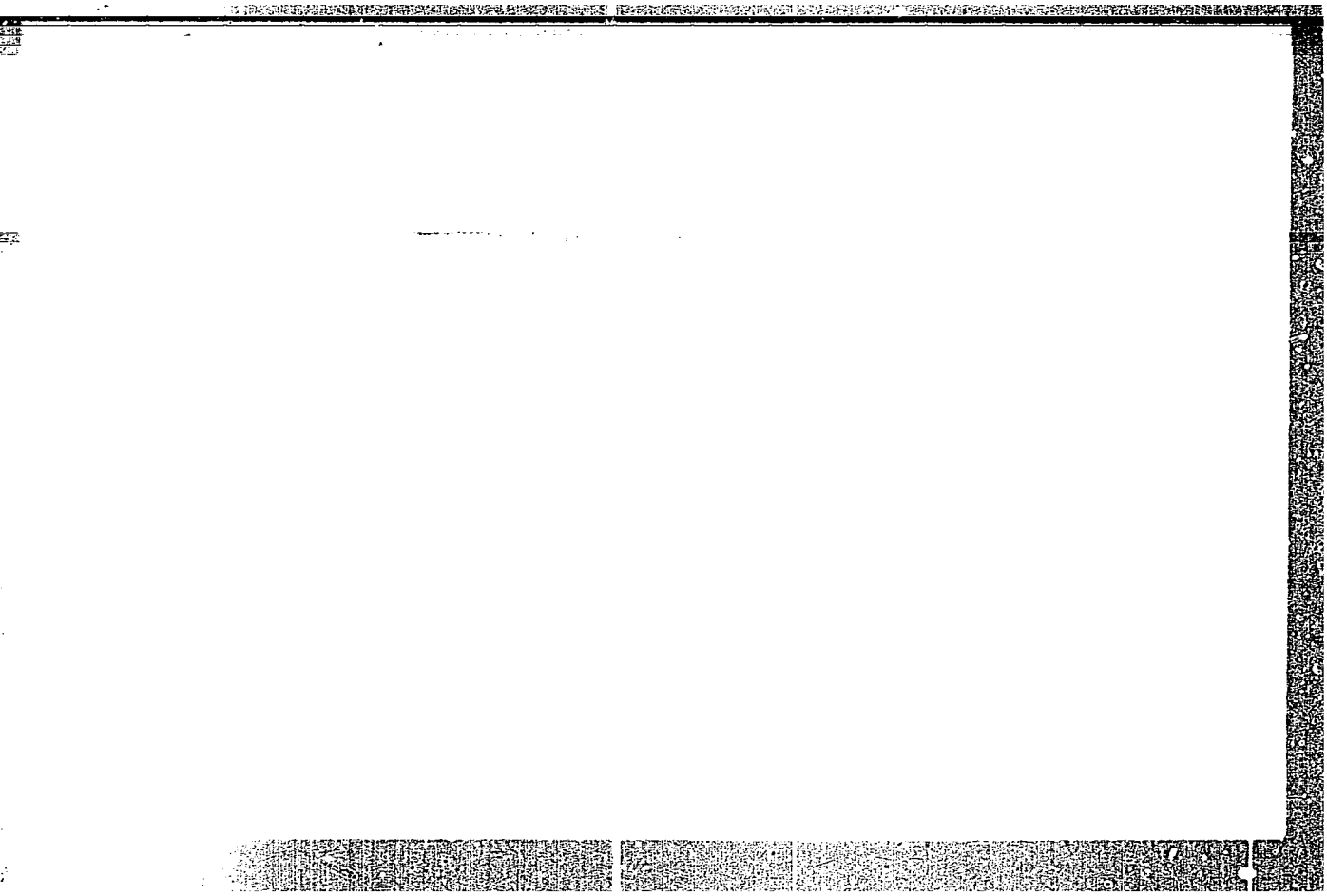
The unique determination of the solution in the exterior boundary-value problems in the theory of vibrations requires the imposition of certain "radiation conditions" at infinity [see, e.g., V. D. Kupradze, boundary value problems of the theory of vibrations and integral equations, Gostekhizdat, Moscow-Leningrad, 1950; I. N. Vekua, Doklady Akad. Nauk SSSR (N.S.) 80, 341–343 (1951); these Rev. 14, 336]. The author points out that these conditions depend upon the particular domain in question, in that there are simple domains for which there exists no solution to the problem satisfying these "uniqueness producing" conditions, and sets himself the problem of finding a more general (i.e., allowing existence of a solution) method for uniquely determining the solution of the exterior boundary-value problems in elasticity. His method, which he designates by the phrase "principle of limiting absorption", consists in seeking the solution of the equation (Δ is the Laplacian)

$$\Delta u + k^2 u = -f \quad (k \text{ real})$$

as the limit of solutions of the equation

$$\Delta u + k_1^2 u = -f \quad (k_1 = k + i\epsilon;\ \epsilon > 0)$$

which are bounded at infinity. In an earlier paper [Sveĭnikov, ibid. 73, 917–920 (1950); these Rev. 12, 233] the principle of limiting conductivity was applied for the uniq... determination of solutions of the scalar wave equation. In the present paper, the more difficult vector wave equation occurring in steady elastic vibrations is treated.



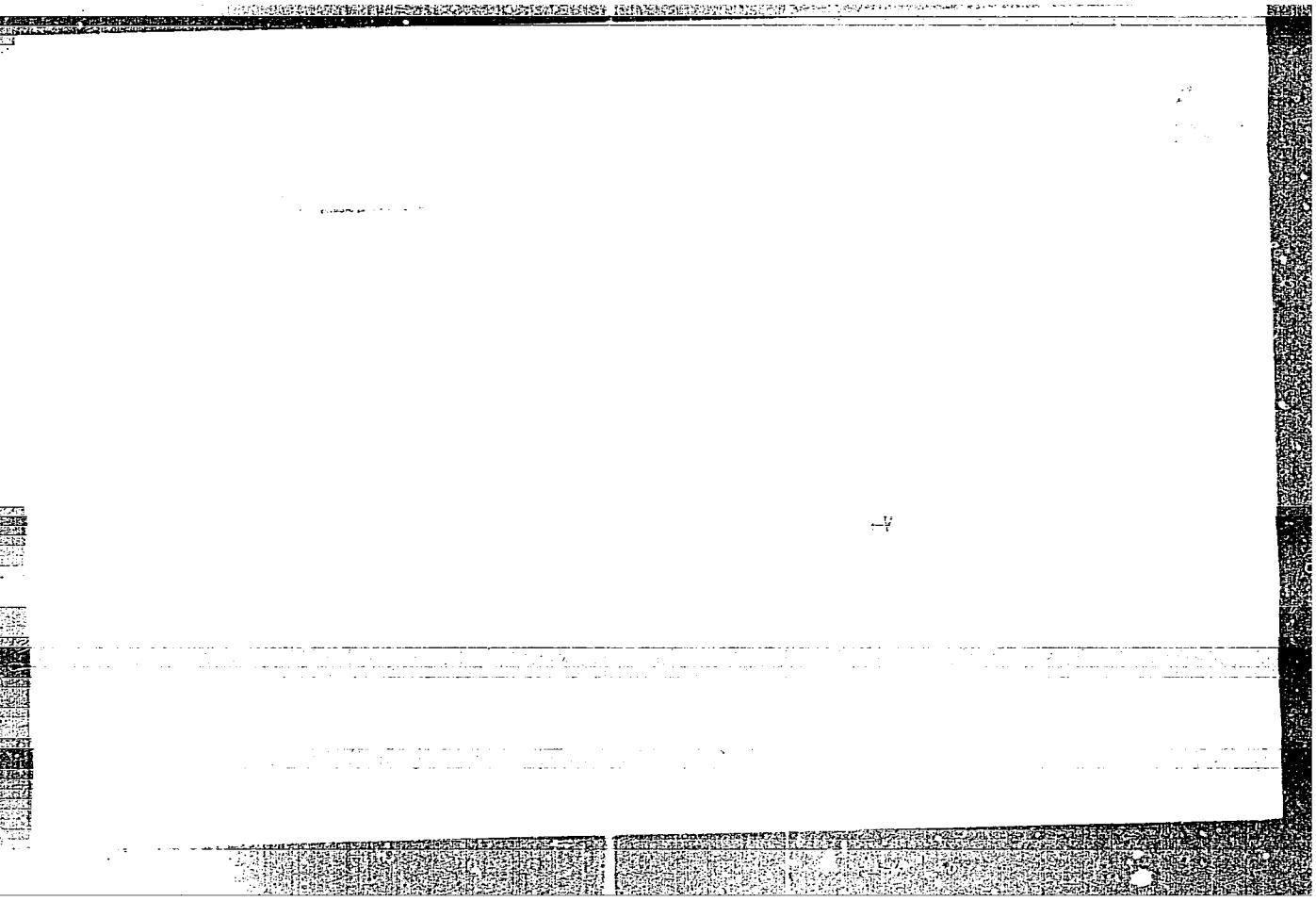
APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927610008-8"

KUPRADZE, V. D., AND BASHELEYSHVILI, M. O.

New Integral Equations of the Anisotropic Theory of Elasticity and Their Application in the Solution of Boundary Problems

In an earlier article the authors constructed the fundamental solutions of the equations of the plane-stressed state of an anisotropic medium. In the present work the authors make use of these equations to construct four types of vector potentials which they call potentials of either a simple or double layer of the first or second kind. These potentials satisfy the equations of the plane-stressed state of an anisotropic medium as well as certain limiting equalities. (RZhMat, No. 8, 1955) Soobshch. AN Gruz. SSR, Vol 15, No. 7, 1954, 415-422.

SO: Sum. No. 744, 8 Dec 55 - Supplementary Survey of Soviet Scientific Abstracts (17)



KUPRADZE, V.D.

Call Nr: AF 1108825

Transactions of the Third All-union Mathematical Congress (Cont.) Moscow, Jun-Jul '56 Trudy, '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.

Card 68/80

KUPRADZE, V.D., akademik

Boundary problems in the theory of elasticity for bodies in the form of nonhomogeneous pieces. Soob. AN Gruz. SSR 22 no.3:265-271 Mr '59. (MIRA 12:8)

1.Tbilisskiy gosudarstvennyy universitet im. Stalina. 2.AN GruzSSR.
(Elasticity)

KUFRADZE, V.D., akademik

Theory of boundary problems for nonhomogeneous elastic bodies; basic theorem of equivalence. Soob. AN Gruz. SSR 22 no.4:401-408 Ap '59. (MIRA 12:9)

1.Tbilisskiy gosudarstvennyy universitet im. Stalina, AN GruzSSR.
(Elasticity)

KUPRADZE, V.D., akademik

Boundary problems in the theory of elasticity for non-homogeneous bodies in the form of pieces. Soob.AN Gruz.SSR 22 no.5:521-528 My '59. (MIRA 12:11)

1. Tbilisskiy gosudarstvennyy universitet imeni Stalina i Akademiya nauk Gruzinskoy SSR.
(Elasticity)

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

134. A. A. Il'yushin (Moscow): Problems of the theory of plasticity under combined loading.

135. V. K. Kabulov (Tashkent): Elastic-plastic vibrations of rods of non-circular cross section.

136. V. G. Kalinin (Leningrad): The forced non-linear flexural vibrations of a homogeneous prismatic rod and a very long rectangular plate.

137. S. Kaliski (Warsaw): On a method of solving the equations of motion for an infinite anisotropic medium in the presence of a magnetic field.

138. G. N. Kan, P. A. Shinlai (Khar'kov): An engineering method for the design of open prismatic shells.

139. I. I. Kandaurov (Leningrad): The distribution of vertical compressive stresses and strains in foundations in homogeneous or stratified soils.

140. B. Ya. Kantor (Khar'kov): Bending of cantilever plates of variable stiffness.

141. K. S. Karapetian (Erevan): The effect of aging and anisotropy on the creep of concrete.

142. L. M. Kachanov (Leningrad): On the time of rupture in creep.

143. L. M. Kachanov (Leningrad): On some variational principles and methods in the theory of plasticity.

144. K. A. Kerimov (Baku): A procedure of determining an impact tension diagram for large deformations.

145. N. A. Kilchevskii (Kiev): Some generalizations of the formulation of elastostatic and elasto-dynamic contact problems and methods for their solution.

146. A. Kha Kim (Omsk): The flow of a visco-plastic medium in a cone.

147. L. A. Kitover (Leningrad): On the elastic equilibrium of thin, infinite orthotropic plates.

148. L. V. Kovalev (Khar'kov): Models of the influence surfaces for the intensity of the bending moment in thin plates and shells.

149. A. D. Kovalenko (Kiev): Shallow shells of revolution of variable thickness in a three-dimensional temperature field.

150. K. Kremenov (Sofia): Dynamic stability of cylindrical and spherical shells.

151. M. Komarov (Sofia): The influence of initial imperfections of shape on the stability of thin elastic cylindrical sandwich shells under axial compression.

152. W. T. Koiter (Delft): Elastic stability and post-buckling behavior.

153. A. N. Kondratev (Kuibyshev), Yu. P. Zharkov (Orenburg): The effect of support elasticity on the natural vibrations of rods.

154. I. M. Kopev, I. A. Oding (Moscow): Strength and plasticity of "whiskers".

155. B. G. Korenev (Moscow): The design of flexible plates and beams on elastic foundation.

156. M. S. Kornishin (Kazan): Bending of rectangular shallow shells with elastic ribs.

157. M. S. Kornishin (Kazan): On the solution of the nonlinear algebraic equations of shell theory.

158. V. G. Korotkin, D. M. Tartakovskii (Leningrad): The one-dimensional problem of the consolidation of a sediment layer with variable specific weight and variable water permeability.

159. A. S. Kosmodamianskii (Saratov): The elastic equilibrium of anisotropic plate with a finite number of elliptical holes.

160. Yu. I. Kosterin (Iaroslavl), I. V. Kragelskii (Moscow): Rheological phenomena in dry friction.

161. Yu. V. Krotov (Stalinsk): Lateral stability of coupled arches with double curvature.

162. A. I. Kuznetsov (Leningrad): On the theory of plane plastic stress.

163. V. S. Kutsubanov, L. V. Nikitin (Moscow): Propagation of elastic, visco-plastic waves in bars.

164. V. D. Kupradze (Tbilisi): The investigation of contact problems in the theory of elasticity by the method of singular integral equations.

165. N. V. Lazovskaia (Moscow): The investigation of the deformations of drains on models by the X-ray method.

166. A. Langenbach (Berlin): Application of the non-linear variational principle to some problems of the theory of elastic-plastic strains.

167. S. M. Levi (Moscow): The investigation of rheological properties of gelatin solutions.

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D237/D304

24.4200

AUTHOR: Kupradze, V. D.

TITLE: Boundary problems of the theory of elasticity for piece-wise non-homogeneous media

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 1, 1962, 14-15, abstract 1V97 (Tr. Vses. soveshchaniya po differentsial'n. uravneniyam, 1958. Yerevan, AN ArmSSR, 1960, 102-106)

TEXT: The problem is stated on the steady oscillations of two elastic media, one of which fills a three-dimensional outer region B_a, while the other fills the inner region B_i. Regions B_a and B_i are in contact over the whole boundary of B_i; the boundary is assumed to be of the Lyapunov type, the elastic media are rigidly coupled along it, and at some point of

Card 1/3

Boundary problems of...

one of the regions B_a, B_i the oscillator is present of frequency ω, producing oscillations of the same frequency in the composite medium. The author considers four particular cases. Problem I: Regions B_a and B_i together fill the whole space. Problems II_a, II_b, II_c: The outer region B_a has a finite boundary S_a on which are given either (a) displacements or (b) stresses or (c) some displacement and some stresses. The case when S_a is plane is not excluded. Problem I is considered in detail. It is shown that the method is applicable to problem II, in which case a preliminary construction of Green's tensor for the region B_a is necessary, and to the case of few or multi-layer inclusions. The problem is reduced to solving some system of weighted singular integral equations. It is stated that the solution can be given as a uniformly convergent series

Card 2/3

Boundary problems of...

in powers of the parameter

$$\tau = \frac{\lambda_i \mu_a - \lambda_a \mu_i}{2(\lambda_i + \mu_i)(\lambda_a + \mu_a)} ,$$

where λ_i , μ_i and λ_a , μ_a are Lame constants for the inner and outer elastic medium respectively. If Poisson constants are the same for both media, then the limit of the series is zero. The solutions of corresponding static problems of the theory of elasticity are obtained by the substitution $\upsilon = 0$. [Abstracter's note: Complete translation.]

Card 3/3

Kuprnadze, U.D.

PHASE I BOOK EXPLOITATION SOV/6201

Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike. 1st, Moscow, 1960.

Trudy Vsesoyuznogo s"yezda po teoreticheskoy i prikladnoy mekhanike, 27 yanvarya -- 3 fevralya 1960 g. Obzornyye doklady (Transactions of the All-Union Congress on Theoretical and Applied Mechanics, 27 January to 3 February 1960. Summary Reports). Moscow, Izd-vo AN SSSR, 1962. 467 p. 3000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Natsional'nyy komitet SSSR po teoreticheskoy i prikladnoy mekhanike.

Editorial Board: L. I. Sedov, Chairman; V. V. Sokolovskiy, Deputy Chairman; G. S. Shapiro, Scientific Secretary; G. Yu. Dzhanelidze, S. V. Kalinin, L. G. Loytsyanskiy, A. I. Lur'ye, G. K. Mikhaylov, G. I. Petrov, and V. V. Rumyantsev; Resp. Ed.: L. I. Sedov; Ed. of Publishing House: A. G. Chakhirev; Tech. Ed.: R. A. Zamarayeva.

Card 1/ 6

(25)

PURPOSE: This book is intended for scientific and engineering personnel who are interested in recent work in theoretical and applied mechanics.

COVERAGE: The articles included in these transactions are arranged by general subject matter under the following heads: general and applied mechanics (5 papers), fluid mechanics (10 papers), and the mechanics of rigid bodies (8 papers). Besides the organizational personnel of the congress, no personalities are mentioned. Six of the papers in the present collection have no references; the remaining 17 contain approximately 1400 references in Russian, Ukrainian, English, German, Czechoslovak, Rumanian, French, Italian, and Dutch.

TABLE OF CONTENTS:

SECTION I. GENERAL AND APPLIED MECHANICS

Transactions of the All-Union Congress (Cont.) SOV/6201

SUBJECT: Physics

Card 6/6

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AM4024710 BOOK EXPLOITATION S/

Kupradze, Viktor Dmitriyevich

Methods of the potential in the theory of elasticity (Metody* potentsiala v toerii uprugosti). Moscow, Fizmatgiz, 63. 0472 p. illus., biblio., indices. 6,500 copies printed.

TOPIC TAGS: elasticity theory, potential methods, integral equations, boundary value problems, homogeneous bodies, inhomogeneous bodies, existence theorems, conditions at infinity, singular integral equations, multidimensional singular integral equations, anisotropic bodies, approximate methods

PURPOSE AND COVERAGE: The book is devoted to the application of the potential methods to the fundamental boundary value problems of elasticity theory and treats, for the first time, not only homogeneous but also piecewise-inhomogeneous bodies. Existence theorems are proved for the main boundary-value problems of such bodies. The

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entire theory is based on the theory of singular integral equations, making it possible, on the one hand, to investigate a broader group of boundary problems and, on the other, to uncover new applications of the method. Another feature of the book is that it treats for the first time two new methods of solving boundary problems. The book is based on lectures delivered by the author in 1959--1962 at the Mechanics-Mathematics Department of the Tbilisskiy universitet (Tbilisi University) and on various seminar lectures. The author thanks L. G. Magnaradze and S. G. Mikhlin, who read the manuscript and made many valuable remarks. Individual chapters of the book were read also by participants in the seminar, especially M. O. Basheleyshvili, T. V. Burchuladze, and T. G. Gegeliya. The calculations in the tables of Ch. X were made by N. Arveladze and L. Khachapuridze of the Computation Center of AN GruzSSR, for which the author is sincerely grateful.

TABLE OF CONTENTS [abridged]:

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Card 3/4

AM4024710

Literature - - 467
Author index - - 470
Subject index - - 470

SUB CODE: MM SUBMITTED: 20Aug63 NR REF SOV: 020

OTHER: 010 DATE ACQ: 20Mar64

Card 4/4

KUPRADZE, V.D., akademik; BURCHULADZE, T.V.

General mixed problem in the theory of elasticity and in the theory of potential. Soob. AN Gruz. SSR 32 no. 1:27-34 O '63. (MIRA 17:9)

1. Tbilisskiy matematicheskiy institut imeni Razmadze, AN GruzSSR.
2. Akademiya nauk GruzSSR (for Kupradze).

KUPRADZE, V.D., akademik; ALEKSIDZE, M.A.

Approximate method for solving certain boundary value problems. Soob. AN Gruz. SSR 30 no.5:529-536 My '63. (MIRA 16:11)

1. Vychislitel'nyy tsentr AN GruzSSR i Tbilisskiy gosudarstvennyy universitet. 2. Akademiya nauk Gruzinskoy SSR (for Kupradze).

BURCHULADZE, T.V.; KUPRADZE, V.D. (Tbilisi)

"General mixed boundary value problem of the theory of elasticity and the theory of potential"

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow, 29 January - 5 February 1964

ACCESSION NR: AP4042756 S/0208/64/004/004/0683/0715

AUTHORS: Kupradze, V. D. (Tiflis); Aleksidze, M. A. (Tiflis)

TITLE: Method of functional equations for approximate solution of certain boundary value problems

SOURCE: Zhurnal vy*chislitel'noy matematiki i matematicheskoy fiziki, v. 4, no. 4, 1964, 683-715

TOPIC TAGS: functional equation, approximate solution, boundary value problem, Dirichlet problem, Neumann problem, linear algebraic equation, harmonic function, elasticity theory, elliptic equation, Lyapunov surface, Laplace equation

ABSTRACT: The authors extend and apply previous work (Ob odnom priblizhennom metode resheniya nekotory*kh granichny*kh zadach. Soobshch. AN GruzSSR, 1963, 30, 529-536) on applying functional equations to the Dirichlet and Neumann problems, on solvability of the obtained systems of linear algebraic equations, and on convergence of the two proposed methods for approximate solution of the basic functional equation. Their method is at least as universal as existing ones, being applicable to basic boundary value problems in the theory of harmonic functions and elasticity theory, which is done in this paper, as well as to other boundary value problems for

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ACCESSION NR: AP4042756

elliptic equations and systems of elliptic equations, and also for solving limit problems of parabolic and hyperbolic equations and equations with discontinuous coefficients. It can also be applied to problems which are reducible to singular integral equations. Let B_i be a region bounded by the closed Lyapunov surface S, $\overline{B}_i = B_i + S$, and let B_e be the exterior infinite region with boundary S. Let $u(x)$, $x \in B_i$, be the twice continuously differentiable solution of the Laplace equation in B_i with continuous first derivatives in $\overline{B}_i$. Then

$$u(x) = \frac{1}{4\pi}\iint_S \frac{\partial}{\partial n_y}\left(\frac{1}{r(x,y)}\right)\psi(y)\,dS - \frac{1}{4\pi}\iint_S \frac{1}{r(x,y)}\varphi(y)\,dS, \quad x \in B_i, \quad (1)$$

where

$$u|_S = \psi(y), \qquad \left.\frac{\partial u}{\partial n}\right|_S = \varphi(y), \qquad (2)$$

and

$$0 = \frac{1}{4\pi}\iint_S \frac{\partial}{\partial n_y}\left(\frac{1}{r(x,y)}\right)\psi(y)\,dS - \frac{1}{4\pi}\iint_S \frac{1}{r(x,y)}\varphi(y)\,dS, \quad x \in B_e \quad (3)$$

where $\partial/\partial n_y$ is the derivative along the interior normal at the point $y \in S$. From (3) the unknown function $\varphi(y)$ can be determined for the Dirichlet problem and

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ACCESSION NR: AP4042756

$\gamma(y)$ for the Neumann problem by one of two methods. The first method is to construct the coefficients of expansion of a Fourier series in some complete orthonormalized system of functions. The second method is to replace (3), using mechanical cubature formulas, by a system of algebraic equations whose solution gives approximate values of the unknown function at separate points of the boundary S. The authors find an approximate solution of the Dirichlet and Neumann problems at any point of B_i by substituting the obtained values into (1). They prove theorems formulated in their previous paper and also study the first and second basic boundary value problems in elasticity theory. Orig. art. has: 10 tables and 76 formulas.

ASSOCIATION: none

SUBMITTED: 01Jun63

ENCL: 00

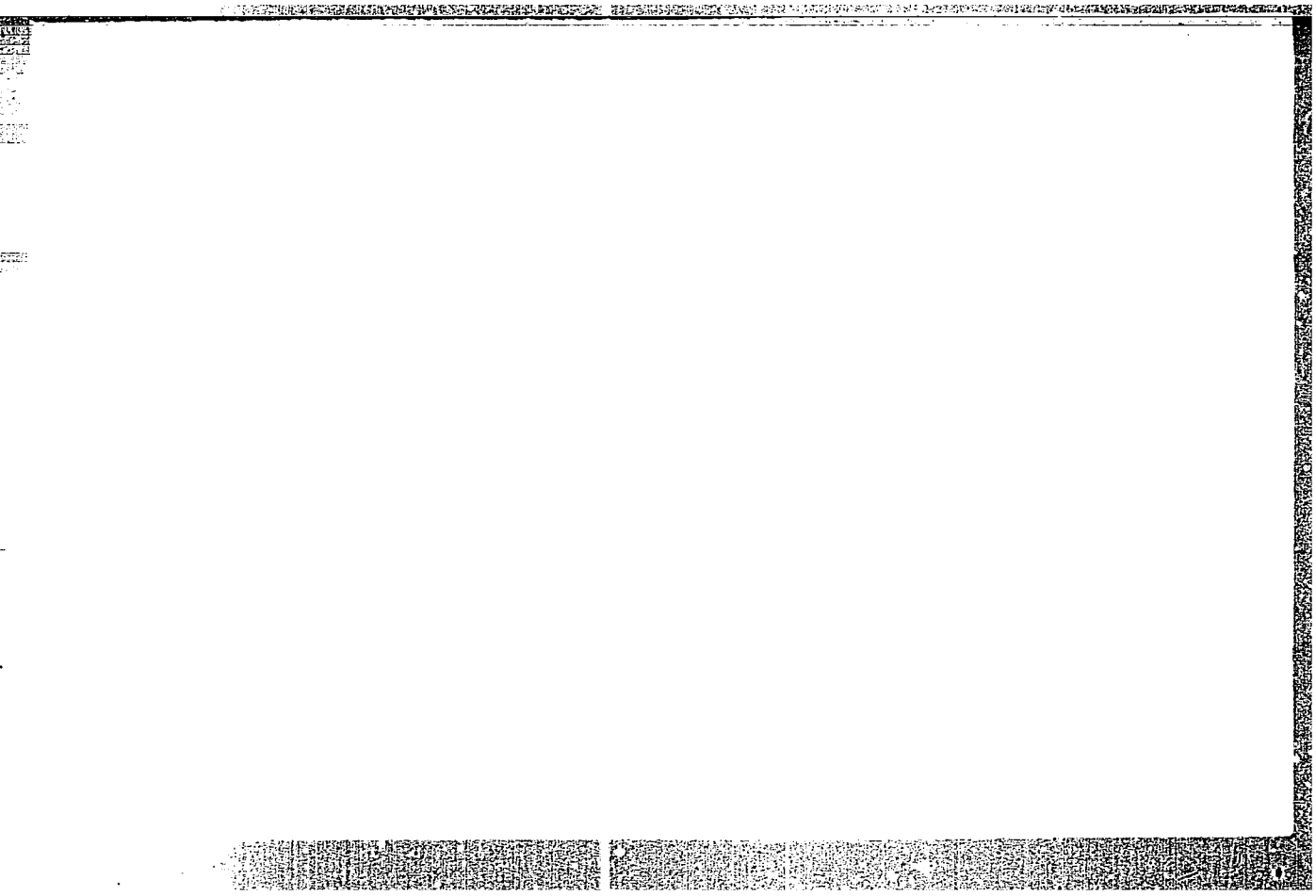
SUB CODE: MA NO REF SOV: 011 OTHER: 002

Card 3/3

AUTHOR: Kupradze, V. D.(Tiflis)

TITLE: Method of approximate solution of limit problems in mathematical physics

[illegible] coordinate transformations to reduce the equation to the elliptic type.



APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R000927610008-8"

ACCESSION NR: AP4042886 S/0251/64/035/001/0015/0022

AUTHOR: Kiguradze, I. T., Kupradze, V. D.(Academician)

TITLE: Non-oscillating solutions of the equation $\mu'' + a(t)|\mu|^n \operatorname{sign} \mu = 0$

SOURCE: AN GruzSSR. Soobshcheniya, v. 35, no. 1, 1964, 15-22

TOPIC TAGS: differential equation, stability theory, oscillating solution, oscillating function, bounded variation

ABSTRACT: The article considers the equation

$$u'' + a(t)|u|^n \operatorname{sign} u = 0, \qquad (1)$$

where $n > 1$, and the function $a(t)$ is non-negative and summable over every finite interval. Previous work has centered on finding necessary and sufficient conditions that the solution to the above equation be either oscillating or non-oscillating. Also previously derived have been estimates of the oscillation of the solution for large values of the argument. The present paper derives various asymptotic formulas for the oscillation. A typical result of the paper is the following theorem: Define $A_1(t)$ by

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$$A_1(l) = \frac{2(n+1)}{(n-1)^2} + (a_0^{-2/(n+3)}(l))'' a_0^{-2/(n+3)}(l) \left(\int_l^{\infty} a_0^{2/(n+3)}(\tau)\, d\tau \right)^2, \qquad (2)$$

Then if $\int_0^{\infty} A_1(t) < \infty$ and $A_1(t) \sim A_1 < 0$, for each solution of equation (1) one of the following conditions holds:

$$u(l) \sim \pm |A_1|^{2/(n-1)} a_0^{-2/(n+3)}(l) \left(\int_l^{\infty} a_0^{2/(n+3)}(\tau)\, d\tau \right)^{-2/(n-1)}, \qquad (3)$$

$$u(l) \sim C_0 \neq 0. \qquad (4)$$

Six theorems are considered in the course of the article. Orig. art. has: 31 formulas.

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ACCESSION NR: AP4042886

ASSOCIATION: Tbilisskiy gosudarstvenny*y universitet (Tiflis State University)

SUBMITTED: 30Oct63 ENCL: 00

SUB CODE: MA NO REF SOV: 002 OTHER: 005

Card 3/3

KUPRADZE, V.D., akademik

The completeness of classes of functions. Soob. AN GruzSSR 37 no.2:257-258 F '65. (MIRA 18:3)

1. Tbilisskiy gosudarstvennyy universitet i AN GruzSSR.

L 32970-66 EWT(d)/EWT(m)/EWP(k)/T-2/EWP(w) IJP(c) EM

ACC NR: AT6016914 (N) SOURCE CODE: UR/0000/65/000/000/0211/0216

32

BH

AUTHOR: Kupradze, V. D.

ORG: Tbilisi University (Tbilisskiy universitet)

TITLE: Potential methods in elasticity theory 26

26

SOURCE: International Symposium on Applications of the Theory of Functions in Continuum Mechanics. Tiflis, 1963. Prilozheniya teorii funktsiy v mekhanike sploshnoy sredy. t. 1: Mekhanika tverdogo tela (Applications of the theory of functions in continuum mechanics. v. 1: Mechanics of solids); trudy simpoziuma. Moscow, Izd-vo Nauka, 1965, 211-216

TOPIC TAGS: elasticity theory, boundary value problem, Fredholm equation

ABSTRACT: A sketch is given of results obtained by extending Fredholm's method to systems of singular integral equations in the solution of boundary value problems arising in the application of potential theory to the theory of elasticity. Existence of theorems are stated and proved for boundary value problems for piecewise-nonhomogeneous bodies and for mixed problems, and their extension from the static to the dynamic case is briefly described. A sketch is given of the application of this extension of Fredholm's method to numerical methods for the solution of a number of boundary value problems of elasticity theory. Orig. art. has: 14 formulas, 1 figure.

SUB CODE: 12,20/ SUBM DATE: 13Aug65

Card 1/1

KUPRAS, Krystyn, mgr., inz.

The influence of shape and speed on the economy of refrigerator trawlers. Bud okretowe Warszawa 6 no.10:305-309 '61.

1. Centralne Biuro Konstrukcji Okretowych 1, Gdansk.

(Ships) (Refrigerators)

KUPRAS,Krystyn, mgr.,inz.

The length between perpendiculars for tankers. Bud okret 7 no.3: 75 Mr '62

1. Centralne Biuro Konstrukcji Okretowych Nr.1,Gdansk.

JAKLEWICZ, Przemyslaw, mgr inz.; KUPRAS, Krystyn, mgr inz.

Designing ship's coordinate lines by means of electronic computers. Bud okretowe Warszawa 8 no.3:81-85 Mr '63.

1. Centralne Biuro Konstrukcji Okretowych Nr 1, Gdansk.

KUPRASH, L.P.

Effect of broad-spectrum antibiotics on some indices of blood coagulation and resistance of the vascular wall in rheumatic lesions of the cardiovascular system. Vrach. delo no.12:62-65 D '61. (MIRA 15:1)

1. Kafedra gospital'noy terapii (zav. - prof. A.A.Avzenberg) Kiyevskogo meditsinskogo instituta.
(ANTIBIOTICS--PHYSIOLOGICAL EFFECT) (BLOOD--COAGULATION)
(RHEUMATIC HEART DISEASE) (BLOOD VESSELS)

KUPRACH, R.P.; ZHEMCHUZHNIKOV, Yu.S.

Evaluating the efficiency of [illegible]. Avtom. i prib. no.2:20 Je '65. (MIRA 18:8)

KUPRASHVILI, G.

Effort to increase payment and receiving resources. Den. i kred. 21 no.11:24-28 N '63. (MIRA 17:2)

1. Upravlyayushchiy Krymskoy oblastnoy kontoroy Gosbanka.

1. KARUMIDZE, G. A.; CHIKVAIDZE, L. T.; KUPRASHVILI, T. N.

2. USSR (600)

4. Scale Insects

7. Use of chemical measures against the wine scale insect. Soob. AN Gruz. SSR 11, No. 8, 1950.

9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

KUPRASHVILI, T. N.

KUPRASHVILI, T. N.: "The use of phosphorus-organic contact insecticides against the principal pests of the grapevine." Published by the Acad Sci Georgian SSR. Acad Sci Georgian SSR. Inst of Plant Conservation. Tbilisi, 1956. (Dissertation for the Degree of Candidate in Agricultural Sciences)

Source: Knizhnaya letopis' No. 28 1956 Moscow

USSR/General and Special Zoology - Insects.

KUPRASHVILI T.N

Abs Jour : Ref Zhur - Biol., No 5, 1958, 21146

Author : Kuprashvili

Inst :

Title : The Results of Testing Phosphoorganic Preparations Against the Major Pests of the Grapevine.

Orig Pub : Tr. In-ta zashity rast. AN Gruz SSR, 1956, 11, 31-46

Abstract : In laboratory experiments on the larvae and females of the grape the effectiveness of thiophos emulsions (0.2-0.25%) scale insect was respectively 100 and 98%, of mataphos (0.3%) emulsions -it was 98 and 96%, in carbophos emulsions -it was 90-100 and 40%; on the larvae of the grape cushion-like worm it was 100, 98, and 70%. The death rate of the larvae of the second hatching of the mottled grape moth reached 100% from the thiophos dust and emulsion (10.1%), from pyrophos (0.1%) and carbophos (0.7%). Under natural conditions 1% dust and 0.1% emulsion were effective

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USSR/General and Special Zoology - Insects. P-6

Abs Jour : Ref Zhur - Biol., No 5, 1958, 21146

against the leaf phylloxera. The larvae of the grape scale insect and of the grape cushion-like moth died within five days, when sprayed with carbophos and pyrophos, and within 6-10 days when sprayed with thiophos and metaphos. The length of action of the residue from tested preparations in the laboratory was 7-12 days, under natural conditions it was only 2-4 days (reexamination on the beetles of the barn weevil). Burns from pyrophos (0.3%) and metaphos (0.4%) were observed only on the young leaves of grapes.

Card 2/2

KUPRATSEVICH, A.

Her bright career. Rab.i sial. 38 no.12:11 D '62. (MIRA 16:1)

1. Sekretar Markhorauskaga sel'skaga Saveta Zhytkavitskaga rayona Gomel'skay voblastsi.
(Zhitkovichi District—Stock and stockbreeding)

KUPRAVA, G.N.

The T8 eight-axle main-line d.c.electric locomotive. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.6: 71-73 '62. (MIRA 15:7)

(Electric locomotives)

KARBELASHVILI, Gulbaat Elizbarovich; KUPRAVA, N., red.; KHUTSISHVILI, V., tekhn.red.

[Automatic control] Avtomatika. Tbilisi, Gos.izd-vo "Sabchota Sakartvelo", 1958. 142 p. [In Georgian]. (MIRA 13:4)
(Automatic control)

KUPRAVA, Nodar Mikhaylovich; PATARAIA, B., red.; KUTSISHVILI, G., tekhn.red.

[Tiflis plastics manufacturing plant] Tbilisskii zavod "plastmass." Tbilisi, Gos.izd-vo "Sabchota Sakartvelo," 1959. 66 p. (MIRA 13:7)
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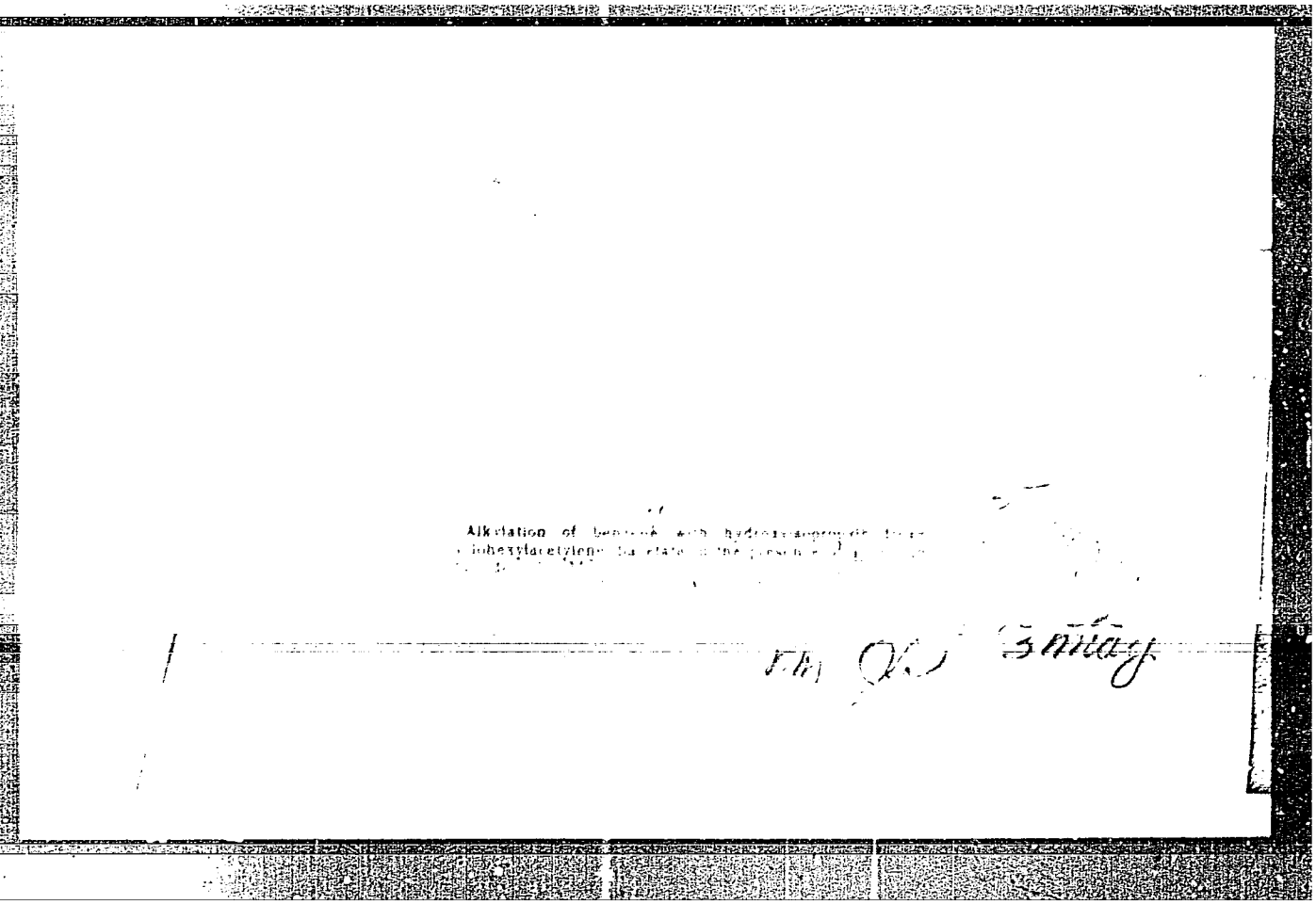
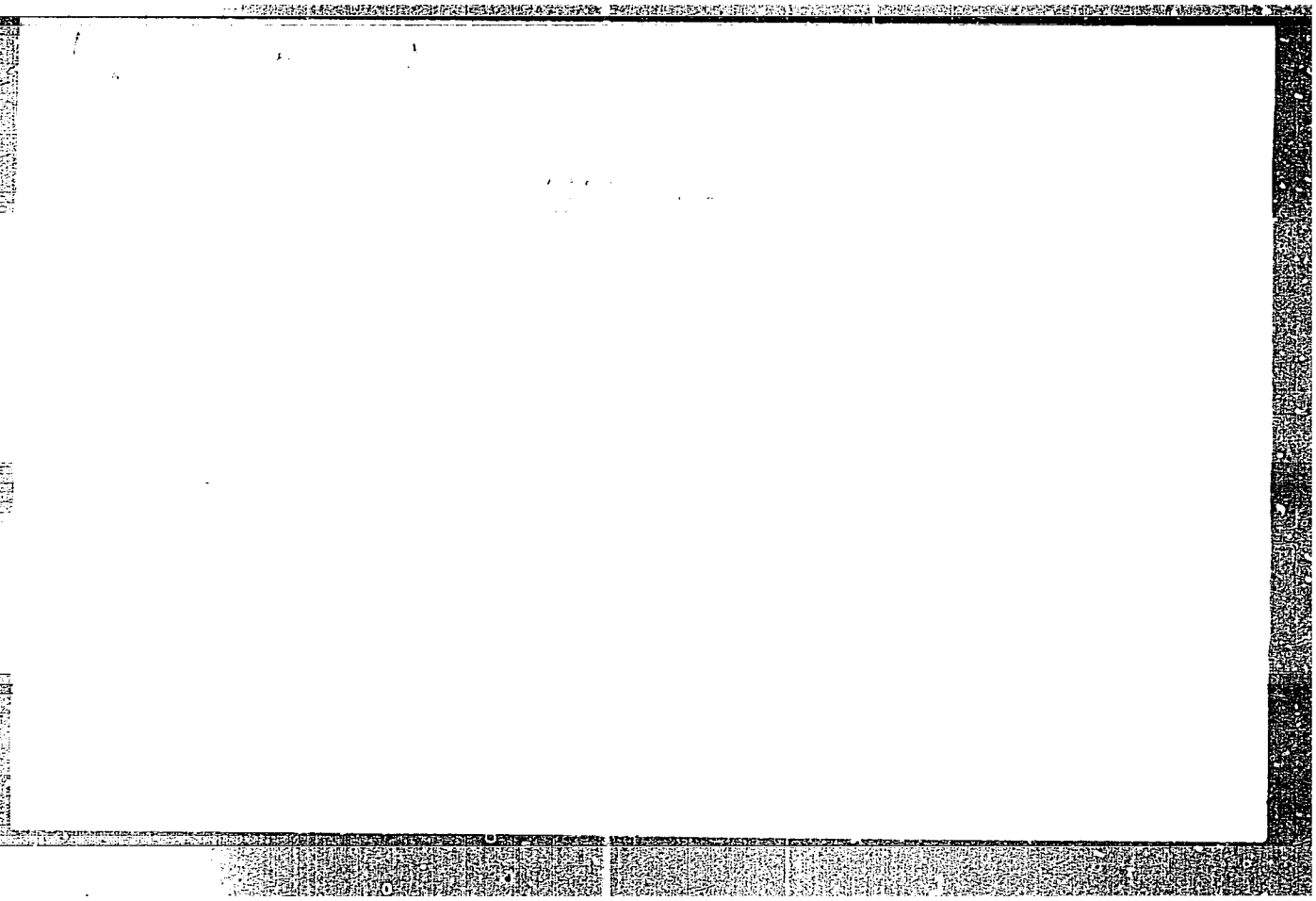
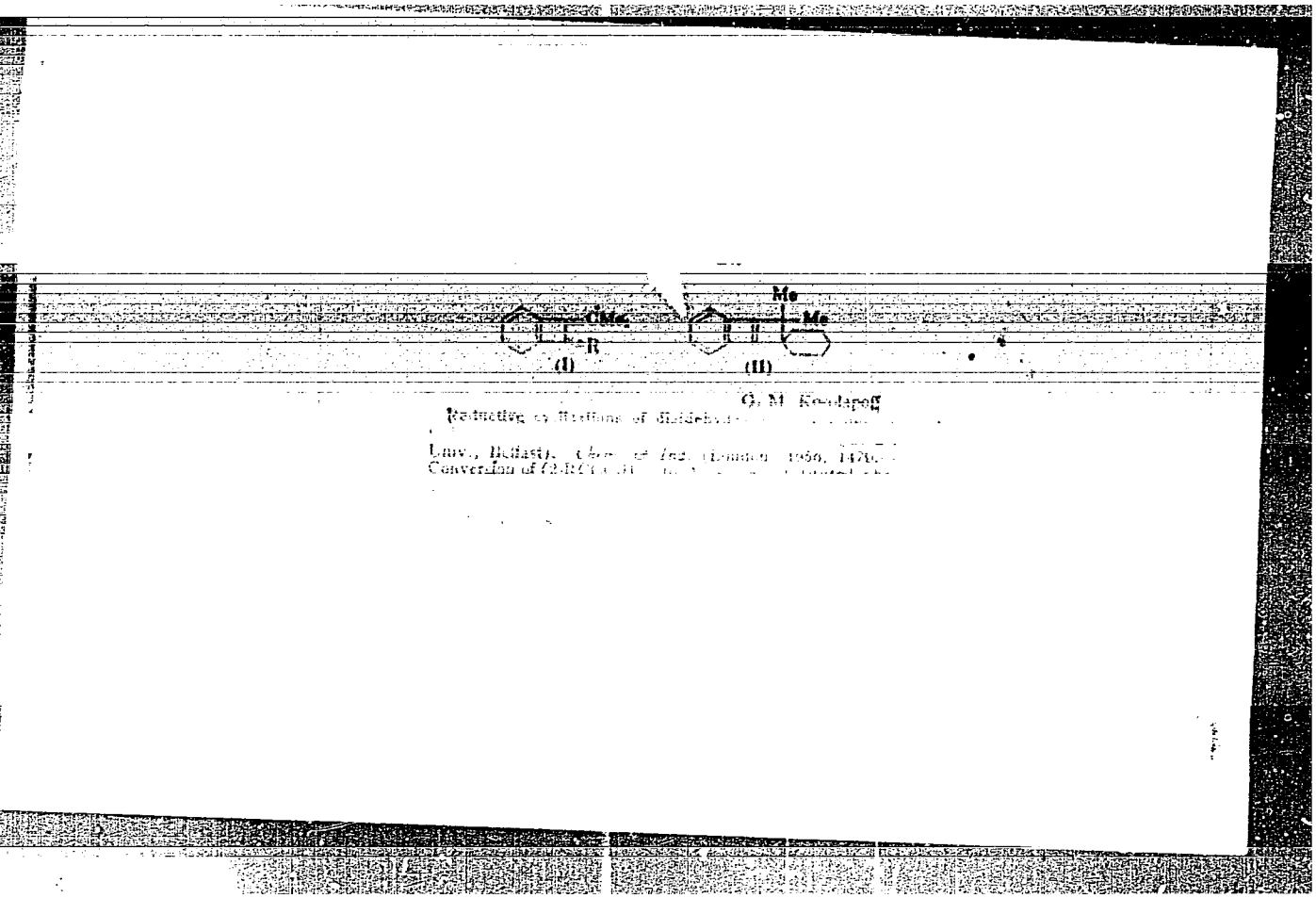
LAGIDZE, R.M.; CHIGOGIDZE, L.P.; IREMADZE, N.K.; KUPRAVA, Sh.D.; SAMSONIYA, G.G.

Alkylation of benzene and its homologs by diacetates of different γ -acetylene glycols in the presence of anhydrous aluminum chloride. Soob.AN Gruz.SSR 25 no.1:19-26 Jl '60. (MIRA 13:10)

1. Akademiya nauk Gruzinskoy SSR, Institut khimii im. P.G.Melikishvili, g. Tbilisi. Predstavleno akademikom R.I.Agladze.
(Alkylation) (Benzene) (Glycols)







G. M. Kosolapoff

Instructor in Chemistry, University of Rochester

Conversion of

[illegible]: [illegible], [illegible], [illegible] [illegible]/20-121-3-21/47
[illegible], Corresponding Member, Academy of Sciences, USSR

[illegible]: The [illegible] of Benzene and [illegible] by Acetic Esters of [illegible] Glycols (O[illegible] benzola i yego [illegible] 7-[illegible] [illegible])

[illegible]: [illegible] Akademii nauk SSSR, 1958, Vol. 121, Nr 3, pp. 470-473 ([illegible])

[illegible]: For years the authors have been investigating the benzene alkylation by butynol as well as by other homologues of the latter (Refs 1-6). They [illegible] an inaccuracy not noticed [illegible] (Ref 7) by [illegible] through a new scheme the product [illegible] naphthalene (I) k[illegible]). [illegible] Chemok ([illegible] authors on the structure of the [illegible] of the [illegible] substance but he [illegible] pointed out to the authors [illegible] hydrocarbon [illegible] -5,9,10,10-tetra-[illegible]th[illegible]-[illegible] ([illegible]).

Card 1/3

SOV/[illegible]-121-[illegible]-21/47

The [illegible]ylation of Benzene and [illegible] [illegible]ers of γ-Acetylene Glycols

ASSOCIATION: [illegible] N. D. Zelinskogo Akademii nauk [illegible] (Institute of Organic Chemistry imeni N. D. Zelinskiy [illegible]) Institut khimii Akademii nauk GruzSSR (Institute of Chemistry, AS GruzSSR)

SUBMITTED: [illegible] 1958

Card [illegible]

[illegible], A.E.; [illegible], A.V.

[illegible] and nitro derivatives of [illegible] alkylation of benzene and its [illegible] by 2,5-[illegible]-hexyn-3,5-diol and hydroxylacetylenic [illegible] in the presence of anhydrous $AlCl_3$. Dokl. [illegible]. SSR [illegible]. (MIRA 18:3)

1. Institut [illegible] im. I.S. [illegible]. Submitted June 17, 1964.

LAGIDZE, R.M.; DEMADZE, N.K.; CHIGOGIDZE, L.P.; KUPRAVA, Sh.D.; SAMSONIYA, G.G.

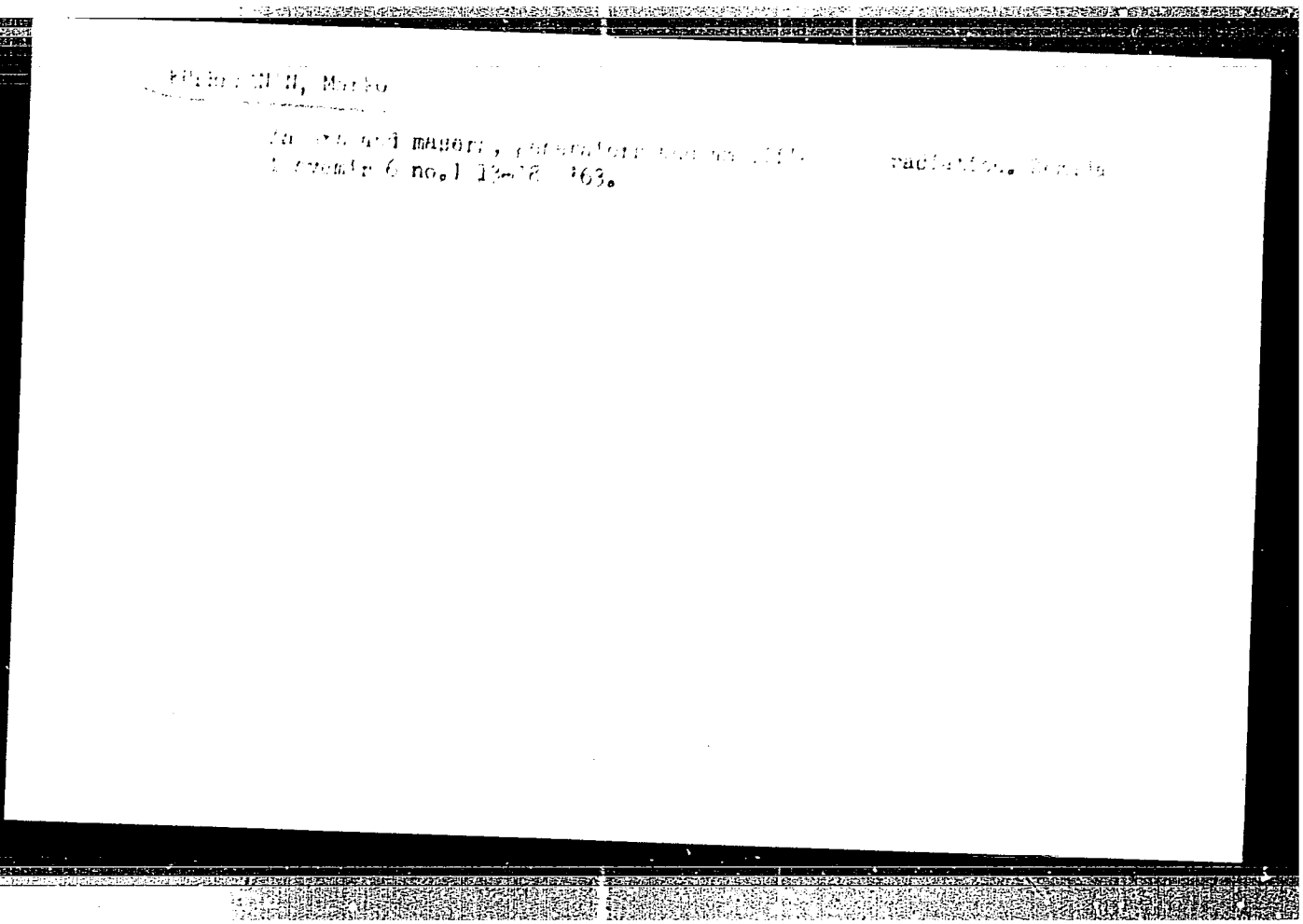
Alkylation of benzene and toluene by tert-γ-acetylenic glycols. Zhur. org. khim. 1 no.11:1965-1969 N '65.

(MIRA 18:12)

1. Institut fizicheskoy i organicheskoy khimii imeni P.G. Melikishvili AN GruzSSR. Submitted July 7, 1963.

KUPRESANIN, Marko

How the distance to the moon is measured. Zemlja i svemir 6 no.3:53-55 '63.



KUPRESSOVA, V.B.

Determining carbohydrates in tent caterpillars by paper chromatography. Izv. SO AN SSSR no.4 Ser. biol.-med.nauk no.1:141-143 '65. (MIRA 18:8)

1. Tomskiy gosudarstvennyy universitet.

AUTHOR: Kuprevich, F. V., Corresponding Member of the Academy of Sciences of the USSR 30-58-4-8/44

TITLE: Problems of Soil-Enzymology (Voprosy pochvennoy enzimologii)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 4, pp. 52-57 (USSR)

ABSTRACT: In order to characterize the enzymolytic soil-activity one usually investigates the behavior of the animals that populate it, especially the saprophytes, separated in bacilli-culture. These researches played an important part at the investigation of impor nt soil-qualities. Of especially great importance is the determination of the species of the organisms that populate the soil. An index of species already allows to judge the processes which may go an in their zone under certain conditions. Experiments showed that the soil, as a rule, is of great enzymolytic activity which is also proved by the works of V. F. Kuprevich, A. S. Sharov, A. V. Baranovskaya, S. M. Mashtakov, I. I. Kanivets, T. A. Shcherbakova, P. A. Vlasyuk, and others. It turned out that the

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enzymolytic activity of different soils is not equal. There were found out essential differences in the enzymolytic activity of old arable soil, covered by medows or grass-sowings, as well as of forest and other soils, covered by natural vegetation. But up till now it was not possible to determine correlation of such kind which on the basis of the ferment-activity allows to judge the harvest-yield to be exspected. One cannot deny that the enzymolytic activity of the soil-animals plays an important part in preparing the fertility wherein one usually assumes that this is a matter of bacteria and fungi. Recently the author pointed out that the roots of plants have the same effect. Finally he mentiones that many questions still remain unsolved.

1. Enzymes—Theory 2. Microorganisms—Physiology
3. Soils—Analysis

1. KUPR..VICH, N. F.

2. USSR (600)

4. Spectrophotometer

7. Photoelectric spectroheliograph with increased registration speed. Izv. Glav. astron. obs 19 no. 2 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

KOPACHICH, N. F.

USSR (60')

Spectrum Analysisl Photometry, Astronomical

High-speed photoelectric spectrophotometer for the sun. Astron. zhur. 29 no. 1, 1952.
Pulkovskaya Observatoriya rcd. 10 June 1951

Monthly List of Russian Accessions, Library of Congress, May 1952. UNCL.

KUPREVICH, N.F.

Photoelectric spectrophotometer for stars. Astron.tsir. no.137:8-9 Ap '53. (MLRA 6:8)

1. Glavnaya Astronomicheskaya Observatoriya Akademii nauk SSSR. (Spectrophotometer)

KUPREVICH, N.F.

Photoelectric record of the twinkling of stars. Astron.tsir. no.138: 5-6 My '53. (MLRA 7:1)
(Stars--Magnitudes)

USSR/Astronomy - Instruments

Card 1/1 Pub. 43 - 35/97

Authors : Kuprevich, N. F.

Title : Photoelectric spectrophotometer for the sun

Periodical : Izv. AN SSSR. Ser. fiz. 18/2, page 266, Mar-Apr 1954

Abstract : The report pertaining to the development of a photoelectric spectrophotometer for astronomical measurements of the sun was published in "News of the Main Astronomical Observatory at Pulkovo" No. 144 (1950) and No. 149, edition 2 (1952) as well as in the "Astronomical Journal" 29, No. 1, (1952).

Institution : .....

Submitted : .....

AID - P-66

Subject : USSR/Astronomy

Card : 1/1

Author : Kuprevich, N. F.

Title : Velocity Photoelectric Spectrophotometer for the Sun with a "Slipping" Spectrum

Periodical : Astron. zhur., V. XXXI, 1, 85 - 89, Ja - F 1954

Abstract : A description is given of a photoelectric spectrophotometer for quick recording of the intensities of the solar spectrum, with use of a photofactor, an oscillograph and a plain turning diffraction screen, which creates a moving spectrum on the fixed slit at the photofactor. Eight graphs, diagrams and sketches. 3 references, all Russian, are given.

Institution : The Main Astron. Observ. of the Academy of Sciences, USSR

Submitted : April 10, 1953

KUPREVICH, N.F.

"The Second Self-Recording Microphotometer of the Byurakan Observatory," by G. A. Gurzadyan, Soobshch. Byurakansk. observ. AN ArmSSR, Issue 18, 1956, pp 29-32 (from Referativnyy Zhurnal -- Astronomiya, Geodeziya, No 2, Feb 57, Abstract No 1100 by N. F. Kuprevich)

Based on the objective photometer (GOI) of Prokof'yev design, a self-recording microphotometer was constructed for the self-recording of spectrograms in the blackening scale. The optical part of this photometer is somewhat different: instead of two light beams, only one is left, covered by a cellophane film with a rectangular aperture in the middle. The light scattered from the cellophane film is of a dark red color to which the selenium photoelement is not responsive. The scattered light replaces the second beam and illuminates the photoplate while it is placed in the photometer. The area to be measured is set into the aperture and one proceeds in the usual way. The recording is made, on oscillographic paper 40 m long and 12 cm wide, by means of a mirror galvanometer, type M21, with a time constant of 3.9 sec. The equipment is supplied with current from the alternating network current and the voltage is stabilized by a stabilizer. (U)

SUM.1360

KUPREVICH, N.F.

Photoelectric recording of the scintillation of stars. Izv.GAO 20 no.2:46-60 '56. (MIRA 13:5)
(Stars—Scintillation)